Storm Water Data Summary Report
Terminal 4 Slip 1 and Slip 3
Upland Facilities

Port of Portland
Portland, Oregon

March 2009

NEWFIELDS

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

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Respectfully submitted,

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Acronyms and Abbreviations

ACA	Ash Creek Associates, Inc.
Anchor	Anchor Environmental, L.L.C.
BMPs	Best Management Practices
CAS	Columbia Analytical Services
City	City of Portland, Oregon
COI	Constituents of Interest
DEQ	Oregon Department of Environmental Quality
DOC	Dissolved Organic Carbon
EE/CA	Engineering Evaluation/Cost Analysis
EPA	U.S. Environmental Protection Agency
Facility	Terminal 4
FSP	Field Sampling Plan
Integral	Integral Consulting, Inc.
JSCS	Joint Source Control Strategy
LWG	Lower Willamette Group
µg/kg	Micrograms per Kilogram
mg/kg	Milligrams per Kilogram
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter
MRLs	Method Reporting Limits
MSL	Mean Sea Level
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
O&G	Oil and Grease
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PECs	Probable Effects Concentrations
PHSS	Portland Harbor Superfund Site
Port	Port of Portland
PSEP	Puget Sound Estuary Protocol
QA/QC	Quality Assurance/Quality Control
RI	Remedial Investigation
SLVs	Screening Level Values
SWE WP	Storm Water Evaluation Work Plan
SWMP	Storm Water Management Plan
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
T4 FSPR	Field Sampling Procedures Report
Vista	Vista Analytical Laboratory

1. Introduction

A storm water characterization program was conducted at Terminal 4 (the Facility; Figure 1). The sampling program was initiated in December 2006 and included the winter/spring 2007 storm season and the fall 2007/winter 2008 storm season. Figure 2 presents a Facility Plan, and the storm drain system and drainage basins are shown on Figure 3.

The storm water evaluation was conducted as required by the Oregon Department of Environmental Quality (DEQ), pursuant to the following:

- Terminal 4 Slip 1 Upland Facility – Voluntary Agreement for Remedial Investigation, Source Control Measures, and Feasibility Study (DEQ No. LQVC-NWR-03-18), December 4, 2003.
- Terminal 4 Slip 3 Upland Facility – Consent Judgment No. 0410-10234, Multnomah Circuit Court, October 7, 2004, Section 3.C.

The scope of work and methodology for the storm water characterization program is described in:

- Storm Water Evaluation Work Plan (referred to herein as the "SWE WP"), Terminal 4 Slip 1 and Terminal 4 Slip 3, dated June 2007, prepared by Ash Creek Associates, Inc. (ACA); and
- Rationale for Basin Selection for Storm Water Sampling and Additional Information Requested by Oregon Department of Environmental Quality (DEQ), Memorandum from ACA to the Port of Portland (Port), dated February 26, 2007.

The storm water characterization evaluated discharges that originate from the Terminal 4 Slip 3 and Terminal 4 Slip 1 Upland Facilities and, therefore, does not include discharges from City of Portland (City) Outfalls 52-C and 53. City Outfalls 52-C and 53 currently cross the Facility to discharge to Slip 1 and the Willamette River, respectively, but do not accept storm water from the Terminal 4 Slip 3 and Terminal 4 Slip 1 Upland Facilities.

The Terminal 4 storm water characterization program was conducted concurrently with a storm water characterization program conducted by the Lower Willamette Group (LWG) for the Portland Harbor Superfund Site (PHSS) Study Area under U.S. Environmental Protection Agency (EPA) and DEQ oversight. Methods and procedures used in the LWG study were deliberately made comparable to the Terminal 4 program so both data sets could be used to assess storm water at the PHSS. Results from the LWG study have been provided to the EPA and the LWG stakeholders, and therefore include the Terminal 4 results (LWG's Round 3A and 3B Upland Stormwater Sampling Data Report [September 2008]).

1.1 Document Organization

This document presents the data collected during storm water and storm water solids sampling from late 2006 through early 2008. Consistent with the SWE WP, this data summary report includes a description of the methods and procedures used in the storm water characterization program, and a tabular summary and brief discussion of the analytical results. The following summarizes the report organization.

- Section 2 provides a background of the Facility, storm water drainage system, and storm water controls currently in place.
- Section 3 is an overview of the storm water and storm water solids sampling program.
- Section 4 presents the analytical results of the storm water sampling program and compares them to screening level values (SLVs).
- Section 5 presents the analytical results of the storm water solids sampling program and compares them to SLVs.
- Section 6 provides conclusions and recommendations based on the results of the storm water and storm water solids sampling results.
- Section 7 provides references.

2. Background

This section describes the Facility and storm drain system and summarizes existing relevant data. Primary source documents are the Terminal 4 Slip 1 Remedial Investigation (RI) Report (ACA/Newfields, 2007b), the Terminal 4 Slip 3 RI Report (Hart Crowser, 2000), the Terminal 4 Early Action Characterization Report (BBL, 2004), and the Terminal 4 Early Action Engineering Evaluation/Cost Analysis (EE/CA; BBL, 2005).

2.1 Facility Description

Terminal 4 comprises approximately 283 acres on the east bank of the lower Willamette River and is downstream from the St. Johns Bridge in north Portland, Oregon, between River Miles 4.1 and 4.6. The portions of Terminal 4 identified as the Slip 1 Upland Facility and Slip 3 Upland Facility are approximately 98 acres and 23 acres in area, respectively. Figures 1 and 2 show the vicinity and layout of the Slip 1 and Slip 3 Facilities.

The topography of the Slip 1 and Slip 3 Facilities is relatively flat, with an elevation of approximately 30 feet above mean sea level (MSL). The ground surface of the Facilities is predominantly paved with asphalt or concrete, with unpaved areas of generally gravel or grass. No surface water bodies are located on the Facilities, but each is located adjacent to the Willamette River.

2.2 Drainage Basins, Storm Water System, and Storm Water Controls

Prior to initiating the storm water sampling program, storm drain drawings were reviewed to identify existing storm drain systems and the drainage basins contributing to the drainage systems present on the Facilities. Figure 3 shows the basins and drainage systems for the Facilities. Basin sizes and impervious areas are as follows:

Upland Facility	Basin	Surface Area (acres)	Percent Paved	Unpaved Area (acres)
Terminal 4 Slip 1, Operable Unit 1	O	5.5	50	2.7
	Q	18	60	7.2
	R	15	20	12
	S	1	100	0
Terminal 4 Slip 1, Operable Unit 2	L	17.2	22	13.4
	M	29.1	55	12.9
	N	3.5	40	2.1
Terminal 4 Slip 3	D	17	95	0.9
	J	2.6	20	2.1
	K	1.5	50	0.8
	TOTAL	110	50	54

Storm water and the storm water conveyance systems at the Facilities are actively managed by the Port under the Port's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit No. 101314 and by Port tenants, including IRM and Kinder Morgan, under general and individual 1200-Z industrial storm water permits. These permits authorize the release of storm water to the river subject to specified terms and conditions and also require the implementation of best management practices (BMPs). The following is a list of BMPs that are specifically related to activities conducted at the Facility under the Storm Water Management Plan (SWMP) for the MS4 permit.

- Regular storm water conveyance system inspection, cleaning, and maintenance program;
- Deployment and regular maintenance of catch basin inserts in select catch basins;
- Regular sweeping schedule of Port-managed impervious areas exposed to storm water;
- Adherence to published guidance for limiting landscape maintenance impacts to storm water;
- Comprehensive spill response program (including a reporting component that provides for immediate action to ensure appropriate and timely spill cleanup and reporting);
- Membership in the City's Regional Spill Committee , which is an organization committed to spill prevention and response; and
- Administration of a training program for all affected personnel who play a role in the protection of storm water.

The Port and its tenants implement the terms and conditions of their permits and report annually to DEQ.

The SWMP includes a BMP to inspect and maintain (e.g., remove debris) from storm water conveyance system components (e.g., catch basins) annually. Maintenance work, including maintenance of catch basin inserts, is completed based on the needs identified during the inspection. The current record maintained for Terminal 4 on catch basin inspection and cleaning is June 6, 2008.

3. Storm Water and Storm Water Solids Sampling Overview

Storm water solids sampling was initially conducted in 2005 as part of the Terminal 4 Early Action EE/CA. The results of the initial storm water solids sampling were presented in the Draft Recontamination Analysis Report (BBL, 2006). The results of the initial sampling and potential data gaps were discussed in the SWE WP. The SWE WP proposed composite storm water and additional storm water solids sampling to address potential data gaps.

In preparation of the SWE WP, a detailed evaluation of the drainage basins was conducted to assess which basins to sample during the 2006-2008 storm water characterization program. The rationale for selection of basins for additional sampling was described in the SWE WP and detailed in a memorandum dated February 26, 2007 (a copy of the memorandum is contained in Appendix A for reference). Based on the evaluation, basins selected for sampling were as follows:

Upland Facility	Basin	Unpaved Surface (acres)	Total Surface Area (acres)
Terminal 4 Slip 1, Operable Unit 1	Q	7.2	18
	R	12	15
Terminal 4 Slip 1, Operable Unit 2	L	13.4	17.2
	M	12.9	29.1
Terminal 4 Slip 3	D	0.9	17
	TOTAL	46.4	96.3

Figures 4 and 5 show the sample locations for the storm water sampling and the storm water solids sampling, respectively.

3.1 Procedures and Scope of Program

3.1.1 Procedures

Procedures used for the storm water characterization program are detailed in the Terminal 4 Field Sampling Procedures Report (ACA/Newfields, 2009), referred to herein as the T4 FSPR. A copy of the FSPR is contained in Appendix B for reference. In brief, the storm water and storm water solids sampling procedures were as follows:

Storm Water Sampling. Storm water samples were collected by programmable composite samplers. The samplers were manually programmed and set to collect samples when a criteria-meeting storm was predicted. A storm event was considered appropriate for sampling if it met the following three conditions:

- It was preceded by at least 24 hours of no greater than trace precipitation;
- It had an intensity of at least 0.2 inch of rainfall (depth) in a 24-hour period; and

- The expected duration of the storm event was at least 3 hours.

The rain gauge located at Terminal 4, which is maintained by the City of Portland Hydra Network, was used to determine if these conditions were met. The samplers were then programmed for the anticipated storm event and the program was initiated. Flow-weighted and/or time-weighted sampling programs were used, based on conveyance system conditions and sample volume required.

Storm Water Solids Sampling. In-line sediment traps were employed to collect storm water solids. The sediment traps were inspected monthly. Photographs of the sediment traps during the monthly inspections are included in the T4 FSPR. When appropriate, the sample bottles were removed during the monthly inspections and replaced with new bottles. The removed sample bottles were sent to the laboratory so that the accumulated storm water solids could be frozen and archived for the remaining duration of the storm water solids sampling program. At the completion of the program, archived samples from each basin were composited prior to laboratory analysis.

3.1.2 Scope of Storm Water Program

The scope of the sampling program is detailed in the T4 FSPR (Appendix B). In summary, the scope consisted of:

- Storm water sampling from five drainage basin conveyance lines (Basins R, Q, M, L, and D; Figure 3). Three storm events satisfying sampling criteria were targeted for sampling during the winter/spring 2007 storm water season. The scope was subsequently increased to include an additional fall 2007 storm water event from Basins R, Q, M, L, and D, and three events from Basin D in fall 2007/winter 2008 for polychlorinated biphenyl (PCB) analysis to meet LWG objectives.
- Obtaining water level and velocity information from the storm water drainage basin pipes where the composite samplers were deployed.
- Collecting storm water solids samples for analysis from four drainage basin conveyance lines (Basins R, M, L, and D) using sediment traps. Sediment traps were deployed from January 2007 through February 2008 (sample bottles were removed from approximately June through August 2007, during the non-rainy season).

Significant turbidity was detected in the storm water samples collected from Basin R during the May 2007 event. It was later determined that organic-rich solids had entered and partially clogged the conveyance line directly upstream of the storm water sampler. As described in the T4 FSPR (Appendix B), the line was cleaned prior to collecting the fall 2007 composite storm water sample and re-deploying the sample bottles in the sediment trap in September 2007. The source of the solids is not known; however, the material appeared to contain grain sprouts. Most of basin R drains the former grain terminal. Because the grain terminal is no longer in operation at the Facility, it is unlikely that there will be future occurrences of this organic-rich sludge in the conveyance line. An annual inspection has been incorporated as part of ongoing maintenance to determine if solids accumulate again in the line.

3.2 Analytical Program

3.2.1 Laboratory Analysis – Storm Water Samples

Following each storm water sampling event, the samples were transported to Columbia Analytical Services (CAS) of Kelso, Washington for compositing, filtering (if required), and analysis. The storm water samples were picked up by the laboratory courier or dropped off by ACA personnel, following chain-of-custody protocols.

CAS performed the storm water analyses except for the analyses of PCB congeners. The PCB congener analyses were performed by Vista Analytical Laboratory (Vista) in El Dorado Hills, California. Compositing, filtering, and sample handling were performed by CAS following the protocol developed by the LWG and approved by EPA and DEQ as a part of the LWG storm water sampling program conducted concurrent with the Terminal 4 program. These protocols were included as Appendix A of the T4 FSPR (Appendix B).

The laboratory analytical program was based on the constituents of interest (COI) identified for the Terminal 4 storm water basins and considering the analytical program that was completed for the 2005 initial storm water and storm water solids sampling. The analytical program was detailed in the SWE WP. Deviations from the program and the reason for the deviations are detailed in the T4 FSPR (Appendix B). In summary, the storm water samples were analyzed for some or all of the following analytes:

- Total Suspended Solids (TSS) by EPA Method 160.2 or SM 2540D
- Total and Dissolved Organic Carbon (DOC) by EPA Method 415.1 or SM 5310C
- Turbidity by EPA Method 180.1
- Total and Dissolved Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, nickel, selenium, silver, and zinc) by EPA Method 6020
- Total and Dissolved Mercury by EPA Method 7471A
- Total and Dissolved Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270C-SIM
- Total Petroleum Hydrocarbons (TPH) as oil and grease by EPA Method 1664
- Total and Dissolved Phthalates by EPA Method 525.2
- Total and Dissolved PCB Congeners by EPA Method 1668A
- Total and Dissolved Organochlorine Pesticides by EPA Method 8081A
- Total and Dissolved PCB Aroclors by EPA Method 8082

Table 1A provides a per-basin summary of the analytical program completed for the storm water sample analysis program. Although not specified in the SWE WP work scope, analysis of PCB congeners from three storm events from Basin D was added to the sampling scope in the fall of 2007at the request of LWG.

After transport to the laboratory, and following sample compositing, the sample volume was split into additional bottles for duplicate analysis where adequate volume allowed. The scope for the winter/spring 2007 season included three field duplicates to correspond to the three storm events in the scope. The scope for the fall 2007 season included one field duplicate to correspond to the one storm event in the scope.

3.2.2 Laboratory Analysis – Storm Water Solids Samples

Bottles removed from traps were transported to CAS by a laboratory courier. Sediment trap bottles were removed periodically throughout the deployment period to preserve the storm water solids accumulated within the sample bottle. Therefore, the contents of these bottles were archived at the laboratory until the deployment period was complete. The archiving process was completed by laboratory personnel following LWG procedures. The procedures included removing the contents from the bottles, filtering the contents to remove excess water, then freezing and archiving the samples. Once the trap deployment period had concluded and the final set of sample bottles arrived at the laboratory, the archived samples were thawed. The samples for each basin were composited together and split into appropriate containers for laboratory analysis.

CAS performed the storm water solids analyses except for the analysis of PCB congeners. The PCB congener analyses were performed by Vista. The laboratory analytical program was based on the COI identified for the Terminal 4 storm water basins and considering the analytical program that was completed for initial storm water solids sampling performed in 2005 as a part of sediment Early Action studies (ACA/Newfields, 2007a). The analytical program was detailed in the SWE WP and any deviations from the program are discussed in the T4 FSPR (Appendix B). Anchor Environmental, L.L.C. (Anchor) and Integral Consulting, Inc. (Integral) conducted a storm water and solids sampling program within the PHSS Study Area for the LWG concurrent with the Port sampling program. Anchor and Integral prepared a Field Sampling Plan (FSP) for the LWG storm water sampling program (LWG, 2007). ACA reviewed the FSP to ensure that protocols were consistent between programs to maintain comparability between data obtained during the two storm water sampling programs. The LWG FSP is included as an appendix to the Terminal 4 FSPR, which is contained in Appendix B.

In summary, the storm water solids samples were analyzed for some or all of the following analytes:

- Total Organic Carbon (TOC) by Method PSEP (Puget Sound Estuary Protocol)
- Total Metals (aluminum, antimony, arsenic, cadmium, chromium, copper, lead, nickel, selenium, silver, and zinc) by EPA Method 6020
- Total Mercury by EPA Method 7471A
- Total PAHs by EPA Method 8270 SIM
- Oil and grease (O&G) by EPA Method 1664
- Total Phthalates by EPA Method 8270 Low Level
- Total PCB Congeners by EPA Method 1668
- Total Organochlorine Pesticides by EPA Method 8081
- Total PCB Aroclors by EPA Method 8082
- Percent Solids by Method 160.3M
- Grain Size by Method PSEP

Table 1B provides a summary of the analytical program completed at each basin for the storm water solids analytical program.

The storm water solids samples were also analyzed for TPH by EPA Method 8015M in order to further characterize the makeup of O&G reported in the samples. EPA Method 8015M was performed with silica gel cleanup to minimize contribution to the detected concentration from non-hydrocarbon organics.

As identified in Table 1B, none of the sediment traps had sufficient sample to complete the grain size analysis. In addition, traps installed at two basins (R and D) did not have sufficient sample volume to complete all of the desired chemical analyses. Analyses were prioritized as described in the SWE WP. The scope for the storm water solids trap sampling program included analysis of one field duplicate. However, there was insufficient volume collected in the Terminal 4 drainage basin sediment traps to prepare and analyze a field duplicate.

4. Storm Water Sampling Results

Tables 2 through 8 present the results of the storm water sampling program. For this data summary report, the storm water analytical results were compared with screening levels in Table 3-1 of the Portland Harbor Joint Source Control Strategy (JSCS) guidance document (DEQ/EPA, 2005; updated July 2007). Where exceedances are noted, a brief review of surface soil data from the RI was performed to assess whether a source in upland soil could be correlated. As detailed below, no correlations were noted. The storm water conveyance lines are above the water table; therefore, a comparison with ground water data from the RI is not applicable.

The laboratory reports for the storm water sampling are included in Appendix C. A quality assurance/quality control (QA/QC) review of the laboratory data was completed, and is included in Appendix D.

4.1 Metals

Samples collected from basins D, L, M, and R during four storm water events, and from Basin Q during three events, were analyzed for selected metals. The metals results and associated JSCS SLVs are presented in Table 2. In general, metals results are relatively consistent across the basins, with the exception of the May 2007 sample from Basin R. The May 2007 sample from Basin R was highly turbid; as described in Section 3.1.2, a thick accumulation of organic-rich solids was observed in the line when the sampler equipment was removed from the line following collection of the spring 2007 storm water samples. The presence of the solids appears to have biased the constituent analyses high.

Variability observed between the other samples appears primarily related to variability in TSS (this is discussed further in Section 4.7). For the most part, total metal concentrations are greater for each constituent than its respective dissolved concentration, sometimes significantly (e.g., aluminum). Arsenic, cadmium, chromium, copper, lead, silver and zinc exceeded their respective SLVs in one or more samples from each of the basins; however, the exceedances were generally low and appear primarily due to the very low SLV for most of these constituents.

A review of the RI data does not suggest a correlation between observed exceedances and upland soil concentrations. For example, arsenic concentrations in the storm water samples from Basin M are higher than those detected in basins Q and R (with the exception of the May 2007 sample from Basin R). However, arsenic was not detected above background at any surface soil locations within Basin M (ACA/Newfields, 2007b). Arsenic was detected above background at four surface soil locations within or adjacent to Basins Q and R (ACA/Newfields, 2007b). Similarly, zinc was detected above background concentrations at six of 18 surface soil sampling locations in Basins M and L (ACA/Newfields, 2007b); however, zinc concentrations in storm water samples did not exceed the SLV in these basins (Table 2). In contrast, zinc was not detected above background in surface soil samples from Basin R, but zinc concentrations in the storm water samples exceeded the SLV.

4.2 Oil and Grease

Samples collected from basins D, L, M, and R during four storm water events, and from Basin Q during three events, were analyzed for O&G. Results for the O&G analyses performed on storm water samples are presented in Table 3. With the exception of Basin L and the May 2007 sample event at Basin R, O&G results were below the MRL of 5 milligrams per liter (mg/L; although some detections were reported with a "J" flag qualifier). O&G concentrations in Basin L samples ranged from 11 to 18 mg/L, and the May 2007 sample from Basin R contained 13 mg/L of O&G. As described in Section 3.1.2, a line cleanout was performed in Basin R in the summer of 2007, following the observations of organic-rich solids in the line during the spring 2007 sampling events. After the line cleanout was performed at Basin R during the summer of 2007, O&G concentrations decreased by an order of magnitude. There are no SLVs specified by the JSCS for O&G.

4.3 Phthalates

Samples for phthalate analysis were collected from Basins L and R during four storm events, from Basins M and Q during three events, and from Basin D during two events. Phthalates results and applicable JSCS SLVs are presented in Table 4. Detected phthalate concentrations were low and most commonly below 1 microgram per liter (µg/L). With the exception of di-n-octy phthalate and bis(2-ethylhexyl) phthalate, the detected phthalate concentrations and method reporting limits (MRLs) for non-detect results were below the JSCS SLVs. Di-n-octy phthalate exceeded the SLV in one sample from Basin L; no other exceedances of this compound were observed. Bis(2-ethylhexyl) phthalate was detected at 7 to10 µg/L in the samples collected from Basin L, which is above the SLV of 2.2 µg/L. Bis(2-ethylhexyl) phthalate was also detected just above the SLV in one sample from Basin Q, and in one sample from Basin R (the May 2007 sample).

A potential source of phthalates was not identified in the Basin L or Q drainage areas during the RI, nor did surface soil samples collected from within these basins and analyzed for phthalates contain phthalates above MRLs. Although a surface soil sample collected from within Basin R during the RI contained Bis(2-ethylhexyl) phthalate (ACA/Newfields, 2007b), detections of this compound in the storm water samples from this basin were low relative to Basin L (Table 4), where upland soil samples did not contain Bis(2-ethylhexyl) phthalate above MRLs. Therefore, there does not appear to be a correlation between the storm water results and upland soil.

4.4 Organochlorine pesticides

Samples for organochlorine pesticide analysis were collected from Basins L and M during four storm events, from Basin Q during three events, and from Basin D during one event. Pesticides results and applicable JSCS SLVs are presented in Table 5. For the most part, detected concentrations of pesticides were low and generally below SLVs. However, due to the extremely low SLVs for several constituents (i.e., hexachlorobenzene, heptachlor, aldrin, heptachlor epoxide, dieldrin, and DDx compounds), any detections of these compounds were above the SLVs. In addition, MRLs for a number of the compounds were elevated above the screening levels due to organic matrix interferences (see Appendix D). The results appear relatively uniform across the basins, with the possible exception of 4,4-DDT concentrations in the Basin M samples.

No pesticide sources were identified during the RI of Slip 3. Pesticides were not detected above MRLs in surface soil samples collected during the RI of Slip 1, with the exception of the Wheeler Bay bank samples, and locations SB-61 and SB-62 in Basin M (ACA/Newfields, 2007b). Surface water on Wheeler Bay banks does not drain to the storm water conveyance lines. Locations SB-61 and SB-62 are in a paved area of the site; therefore, these locations do not represent erodible soil.

4.5 Polychlorinated Biphenyls

Storm water samples were collected for PCB Aroclor and congener analysis. As described below, exceedances of the JSCS were noted; however, no correlation with surface soil sources was observed.

Aroclors. Samples for PCB Aroclor analysis were collected from Basins L, M, and R during four storm events and from Basin Q during three events. PCB results and applicable JSCS SLVs are presented in Table 6. Aroclors 1016, 1221, 1232, 1248, 1262, and 1268 were not detected above their respective SLVs in the basins sampled, and were generally not detected above the MRLs. Aroclors 1242, 1254, and 1260 were detected at low concentrations during one or more sample events in the basins; however, due to the low SLVs for these compounds, a number of the detections slightly exceeded the SLV. Detected concentrations were relatively consistent across the basins.

It is noted that PCBs were detected in paint chips from the grain tanks formerly located in Basin Q at the Facility (Figure 2). The grain tanks were removed from the middle of March through July 2008 as part of the Port's plan to increase the valuable land available for marine use development. The metal from the tanks was planned for recycling and samples of the paint on the tanks were collected to profile the material per the requirements of the potential metal recycling facilities. PCBs were detected in the paint samples collected for the profiling. Therefore, the Port retained ACA to provide environmental oversight services during the grain tank removal, document baseline conditions, and verify contractor compliance with environmental controls. Appendix E contains a copy of the report describing the tank demolition process and sampling performed. Additional paint chip samples were collected from all of the tanks to better assess for the presence of PCBs in the paint. PCBs were detected in all of the paint chip samples collected for analysis. None of the manholes in the conveyance line for Basin Q were suitable for the deployment of sediment traps. Therefore, solids samples were collected from catch basins surrounding the grain tanks and evaluated for the presence of paint chips and/or PCBs to document baseline conditions. A description of the methods and results of the catch basin sampling and analysis are included in the Demolition Report (Appendix E). As detailed in the report, paint chips were observed in the catch basin samples and the results indicated the presence of PCBs. Stringent precautions were taken during the tank demolition to protect both the ground surface around the tanks and storm water conveyance system from receiving any additional paint chip debris (Appendix E).

Congeners. Storm water samples from Basins L, M, R, Q, and D were analyzed for PCB congeners. Results from the congener analysis are summarized in Table 7. No SLVs are available for PCB congeners.

4.6 Polynuclear Aromatic Hydrocarbons

Samples for PAH analysis were collected from basins D, L, M, and R during four storm events and from Basin Q during three events. PAH results and applicable JSCS SLVs are presented in Table 8. Detected constituents were similar across the basins. Additionally, with the exception of Basin L, and to a lesser extent Basin M, PAH concentrations were consistent across the basins. PAH concentrations detected in Basin L samples were generally an order of magnitude or more higher than PAH concentrations detected in the other basins. Basin M concentrations were lower than those detected in Basin L, but generally higher than detected in other basins.

Of note, PAH concentrations detected in Basin R were low relative to the other basins with only Basin D samples having generally lower concentrations. Surface soil in the area drained by Basin R was identified during the RI of Slip 1 as having PAH concentrations above human health risk-based screening levels, and is an area proposed for an institutional controls alternative (soil/risk management plan) in a feasibility study (ACA/Newfields 2008). The results of the storm water characterization support that the presence of these PAHs in surface soil in Basin R are not significantly impacting storm water discharges, if at all.

4.7 General Chemistry Parameters

General chemistry parameters (DOC, TOC, TSS, and turbidity) results are presented in Table 9. DOC, TOC, and TSS were collected to support mass loading evaluations being performed for Portland Harbor and are not discussed further herein.

5. Storm Water Solids Sampling Results

Tables 10 through 17 present the results of the storm water solids sampling program. The storm water solids results were compared with Probable Effects Concentrations (PECs) for sediments listed in Table 3-1 of the JSCS. Although PECs were developed for sediments in a surface water body setting, and therefore are not directly applicable to storm water solids, the JSCS recommends comparison of storm water solids to PECs for screening purposes.

Similar to the storm water results, storm water solids results were reviewed against RI results for surface soil in Slips 1 and 3 to assess for potential correlations with upland soil sources. As described in the subsections below, no correlations with surface soil were identified.

The laboratory reports for the storm water solids sampling are included in Appendix C. A QA review of the laboratory data was completed, and is included in Appendix F.

5.1 Metals

Storm water solids samples from basins D, L, and M were analyzed for metals. Metals results are presented in Table 10. Aluminum, antimony, arsenic, copper, nickel, selenium, and silver did not exceed the JSCS SLVs in the storm water solids samples from the three basins. Cadmium and mercury concentrations were slightly above the SLVs of 1.0 and 0.07 milligram per kilogram (mg/kg), respectively. Lead concentrations ranged from 140 mg/kg in Basin M to 713 mg/kg in Basin D, above the SLV of 17 mg/kg. Chromium concentrations were below the SLV of 111 mg/kg in the storm water solids samples from Basins L and M, but slightly above the value in Basin D. Zinc concentrations were above the SLV of 459 mg/kg in Basins D and L, and below the SLV in Basin M.

The magnitude and distribution of the metal concentrations in the storm water solids samples (Table 10) appears inconsistent with the storm water composite sampler results. In addition, sources of metals were not identified during the RIs of Slips 1 and 3 in surface soil in the basins sampled (ACA/Newfields, 2007b; Hart Crowser, 2000). Therefore, it appears that results are not related to soil sources.

5.2 Oil and Grease/Total Petroleum Hydrocarbons

O&G and TPH results for storm water solids samples are presented in Table 11. O&G analyses were run on samples from Basins L and M. A significant difference in O&G concentrations were observed between the analyses performed with and without silica gel cleanup (Table 11), indicating that the predominant portion of the organics measured were not petroleum-related. Therefore, the samples were also analyzed for TPH using EPA Method 8015M (after applying a silica gel cleanup on the extract) to better assess for the presence and type of petroleum hydrocarbons. The EPA Method 8015M results show that TPH are primarily within the residual hydrocarbon range, with a small portion (about 10 percent) of the TPH in the diesel carbon range. The TPH concentrations are about five times less than the O&G concentrations without silica gel cleanup, and less than half of the O&G concentrations with silica gel.

5.3 Phthalates

Storm water solids collected from Basins D, L, and M were analyzed for phthalates; results are presented in Table 12. Bis(2-ethylhexyl) phthalate and butyl benzyl phthalate were detected in the three storm water solids samples analyzed for phthalates. Bis(2-ethylhexyl) phthalate was detected above the JSCS screening criteria of 330 micrograms per kilogram (µg/kg). SLVs for butyl benzyl phthalate are not available in the JSCS guidance.

5.4 Organochlorine Pesticides

Storm water solids collected from Basins L and M were analyzed for pesticides; results and JSCS SLVs are presented in Table 13. With the exception of beta-BHC, heptachlor epoxide, and DDx compounds, pesticides were not detected in the samples. MRLs were slightly raised due to organic matrix interferences and several were above the SLVs. Concentrations of detected pesticides were low; however, due to the low SLVs for DDx, detected DDx compounds exceeded the SLV of 0.33 µg/kg.

Pesticides were not identified in erodible surface soil samples in Basins L and M during the RI at Terminal 4 Slip 1 (ACA/Newfields, 2007b). Therefore, the presence of the pesticides in the storm water solids does not appear to be related to sources in upland soil.

5.5 Polychlorinated Biphenyls

Selected storm water solids samples were analyzed for PCB Aroclors and congeners.

Aroclors. Storm water solids collected from Basins L and M were analyzed for PCB Aroclors; results and JSCS SLVs are presented in Table 14. PCB Aroclors were detected in both storm water solids samples analyzed. Low concentrations (360 µg/kg or less) of Aroclor 1242, 1254, and 1260 were detected in the samples. The concentrations of Aroclor 1254 and Aroclor 1260 detected in the sample from Basin L slightly exceeded the JSCS SLVs of 300 and 200 µg/kg, respectively. There were no other exceedances.

Congeners. Storm water solids collected from Basins D, L, M, and R were analyzed for PCB congeners; results are presented in Table 15. JSCS screening levels are available for a few of the PCB congeners and are included in Table 15.

As identified in Tables 14 and 15, some of the Aroclor and congener results exceeded the PECs. However, PCBs were not identified in surface soil samples in Basins L and M during the RI at Terminal 4 Slip 1 (ACA/Newfields, 2007b). PCBs were not identified as a potential source for further investigation during the RI of Terminal 4 Slip 3 (Hart Crowser, 2000). Therefore, the presence of the PCBs in the storm water solids does not appear to be related to upland soil.

5.6 Polynuclear Aromatic Hydrocarbons

Storm water solids collected from Basins D, L, and M were analyzed for PAHs; results and JSCS SLVs are presented in Table 16. Several PAHs were detected at concentrations above the JSCS SLVs. In general, PAH concentrations were higher in Basin L than in Basins D and M. These results are consistent with the storm water sample results. No significant surface soil sources of PAHs were identified in any of these basins during the RIs of Terminal 4. .

5.7 Total Organic Carbon

The storm water solids results for TOC are presented in Table 17. There are no JSCS screening criteria for TOC.

6. Conclusions

A storm water characterization program was conducted at Terminal 4 (the Facility; Figure 1) pursuant to the December 4, 2003 Voluntary Agreement for Terminal 4 Slip1 and the October 7, 2004 Consent Judgment for Terminal 4 Slip 3. This report presented a summary of the data collected and compared the data to JSCS screening levels as outlined in the SWE WP at Terminal 4 Slips 1 and 3. Exceedances of the JSCS screening levels were noted in both storm water and storm water solids data. The data were reviewed to assess whether potential surface soil sources identified in the RIs of Slips 1 and 3 correlated with the storm water and storm water solids results. No correlations were observed.

7. References

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Table 1A
Storm Water Analytical Program
Terminal 4
Portland, Oregon

Winter/Spring 2007 Season

Basin or Outfall	Organic Carbon				Total Suspended Solids		Turbidity		Metals[1]				TPH		Phthalates				Organochlorine pesticides				PCB Aroclor				PAHs				PCB Congeners			
	total		dissolved						total		dissolved				total		dissolved		total		dissolved		total		dissolved		total		dissolved		total		dissolved	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Basin R	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	1	0	1	0	1	3	3	3	3	3	3	3	3	3	3	1	1
Basin Q	3	2	3	2	3	2	3	2	3	1	3	1	3	2	3	2	1	0	3	2	3	1	3	2	3	1	3	2	3	1	3	2	1	0
Basin M	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0
Basin L	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	1
Basin D	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	0	0	0	0	0	0	0	0	0	0	3	3	3	3	0	0	0	0

Fall 2007/Winter 2008 Season

Basin or Outfall	Organic Carbon				Total Suspended Solids		Turbidity		Metals				TPH		Phthalates				Organochlorine pesticides				PCB Aroclor				PAHs				PCB Congeners			
	total		dissolved						total		dissolved				total		dissolved		total		dissolved		total		dissolved		total		dissolved		total		dissolved	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Basin R	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	0	0	1	1	0	0	1	1	0	0
Basin Q	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Basin M	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0
Basin L	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0
Basin D	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3	3	3	3

Notes:

1. Sample collected from all locations on 4/7/2007 was not filtered by the analytical laboratory within the specified timeframe; therefore, these samples were not run for metals analysis and a "make-up" event was performed on 5/20/2007 for metals analyses.

Equipment malfunction on 5/3/2007 and 5/20/07 events - no sample collected.
Insufficient volume for 3/24/07 sample event to run both total and dissolved; equipment malfunction on 5/3/2007 event - no sample collected.
Laboratory error for 5/3/07 event- laboratory inadvertently did not run for requested analysis.
April 7, 2007 event not filtered in time for analysis; equipment malfunction on 5/3/2007 and 5/20/2007 prevented sample collection.
Lab error for 3/24/07 event and 5/3/2007 event; inadvertently did not run sample.
April 7, 2007 event not filtered in time for analysis; equipment malfunction on 5/3/2007 and 5/20/2007 prevented sample collection.
Equipment malfunction on 11/15/07 and 1/14/08 - no sample collected.

Table 1B
Storm Water Solids Analytical Program
Terminal 4
Portland, Oregon

Basin or Outfall	Organic Carbon		Percent Solids		Grain Size		Metals		TPH		Phthalates		Organochlorine pesticides		PCB Aroclors		PAHs		PCB Congeners	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Basin D	1	1	1	1	1	0	1	1	0	0	1	1	0	0	0	0	1	1	1	1
Basin M	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Basin L	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Basin R	1	0	1	1	1	0	1	0	1	0	1	0	0	0	1	0	1	0	1	1

Notes: The sediment analyses for Basins R, M, L, and D could not be completed due to low sediment sample volume.

Table 2
Storm Water Analytical Results: Metals
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Aluminum		Antimony		Arsenic		Cadmium		Chromium		Copper		Lead		Mercury		Nickel		Selenium		Silver		Zinc	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in µg/L (ppb)																							
Basin D	3/24/2007	161	5.2	0.15	0.1	0.139	0.085	0.13	0.03	7.0	0.86	2.92	1.7	31.4	0.168	0.04 B	< 0.02	1.79	0.44	< 0.02	< 0.02	0.004 B J2	< 0.003	28.9	15.4
Basin D	5/3/2007	267	9.3 J2	0.341	0.233	0.27 J2	0.18	0.125	0.056 J2	10.2	1.76	8.76	6.59	40.3	0.843 J2	0.03 B J3	0.03 B J3	2.39	1.53	<1.0	<1.0	0.016 B	<0.02	57.4 J2	31.1
Basin D - Dup	5/3/2007	262	12.7 J2	0.335	0.232	0.26 J2	0.18	0.105	0.077 J2	9.9	1.68	8.64	6.46	37.5	2.69 J2	0.03 B J3	0.03 B J3	2.27	1.51	<1.0	<1.0	0.012 B	<0.02	51.8 J2	36.9
Basin D	5/20/2007	128	6.2	0.28	0.19	0.265	0.202	0.115	0.042 B	5.2	0.78	6.09	4.66 J4	26.2 N	0.60 N	<0.2	<0.2	1.93	1.31	<0.2	<1.0	0.041	<0.02	46.3	28.2
Basin D	11/16/2007	145	14.6	0.236	0.199	0.13	0.09	0.079	0.051	2.08	0.49	3.09	4.07	9.03	0.372	<0.03	<0.03	0.82	0.71	<0.4	<0.4	0.022	0.004 J2	38.4	23.7
Basin D - Dup	11/16/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.03	<0.03	--	--	--	--	--	--	--	--
Basin L	3/24/2007	1, 540	102	0.9	0.59	0.803	0.898	0.42	< 0.02	5.41	1.73	15.1	4.98	31	0.111	0.02 B	< 0.02	3.69	0.25	0.2 B	< 0.02	0.062 J2	0.003 B	237	3.2
Basin L	5/3/2007	1,850	168	0.83	0.975	<0.5	0.22 B	0.576	0.036 B	7.81	2.86	23.3	6.96	43	0.36	0.04 B J3	0.04 B J3	5.07	<1.0	<5.0	<5.0	0.072 B	<0.1	457 J2	11.5
Basin L	5/20/2007	4,090	77.4	1.39	1.04	1.64	2.38	1.81	0.336	13	1.88	35.7	8.37 J4	50.3 N	0.328 N J4	0.2	0.05 B	10.4	0.75	<1.0	<1.0	0.401	0.034	633	9.25
Basin L	9/28/2007	3,060	160	1.2	0.82	1.07	1.34	0.968	0.036 J2	6.41	1.84	25.6	9.83	47.4	0.447	0.04 B	<1.0	5.74	0.96	<1.0	<1.0	0.107	0.013 B	382	9.58
Basin M	3/24/2007	5,060	28.6	1.27	0.94	3.67	3.0	0.79	< 0.02	9.16	1.24	32.5	7.45	104	0.35	0.09 B	< 0.02	8.46	0.99	0.6 B	< 0.02	0.252 J2	0.013 B	172	1.3
Basin M	5/3/2007	2,050	24.8	1.5	1.32	3.27 J2	3.16	0.36	0.122	6.56	2.3	31	18.1	36.1	0.984	0.05 B J3	0.04 B J3	5.91	2.53	<1.0	<1.0	0.148	0.032	90.5 J2	11.1
Basin M	5/20/2007	2,410	22.1	1.23	1.18	3.39	2.95	0.434	0.152	5.82	1.88	24.3	17.3 J4	26.4 N	0.871 N	<0.2	<0.2	6.18	3.3	0.8 B	<0.2	0.155	0.035	79.9	10.6
Basin M	9/28/2007	1,750	11.5	0.92	0.71	2.32	2.03	0.262	0.057	2.91	0.76	15.5	9.42	26.3	0.281	0.03 B	0.04 B	3.06	1.27	<1.0	<1.0	0.065	0.009 B	78.6	15
Basin Q	3/24/2007	770 J2	6.5	0.52	0.35	0.469 J2	0.145	0.61 J2	0.13	6.38 J2	0.83	11.4	4.62	19.2 J2	0.149	< 0.02	< 0.02	7.95 J2	1.81	< 0.02	< 0.02	0.031 J2	<0.02	137	73.9
Basin Q - DUP	3/24/2007	546 J2	6.9	0.46	0.34	0.339 J2	0.145	0.39 J2	0.16	4.65 J2	0.88	9.47	4.76	13.7 J2	0.15	0.03 B	<0.2	4.04 J2	2.14	< 1.0	< 1.0	0.02 J2	<0.02	120	74.6
Basin Q	9/28/2007	663	12.3	0.67	0.47	0.64	0.26	0.451	0.28	4.7	1.27	18.2	13.8	21.5	0.584	0.05 B	<0.2	3.14	1.89	<1.0	<1.0	0.058	0.008 B	237	164
Basin R	3/24/2007	97.2	7.4	0.48	0.23	0.375	0.188	0.68	0.30	1.57	0.48	12.6	6.38	9.26	0.586	< 0.02	< 0.02	9.91	6.96	0.4 B	0.4 B	0.028 J2	0.003 B	604	503
Basin R	5/3/2007	36,400	47	7.93	0.476	9.16 J2	0.53	39.8	0.92	495	0.86	809	7.48	2,480	4.35	0.97	0.04 B J3	170	9.1	5.0 B	<1.0	3.63	<0.02	11,900 J2	1,280
Basin R	5/20/2007	4,520	17.4	4.88	0.66	3.93	1.12	16.2	0.11	195	0.90	319	9.71 J4	1,070 N	6.11 N	0.53	<0.2	68	6.96	4.1	0.5 B J4	1.29	0.01 B	4,520	406
Basin R	11/16/2007	193 J2	4.2	0.628	0.424	0.18	0.14	0.537	0.296	1.86 J2	0.32	11.5	7.05	13.8 J2	0.527	<0.03	<0.03	2.13	1.3	<0.4	<0.4	0.036	0.006 B J2	285	199
Basin R - DUP	11/16/2007	89.5 J2	3.7	0.497	0.434	0.19	0.13	0.416	0.288	0.88 J2	0.33	8.94	7.36	7.04 J2	0.531	--	--	1.63	1.15	<0.4	<0.4	0.032	0.006 B J2	236	193
Applicable JSCS Screening Level Value		50-200	50-200	6.0	6.0	0.045	0.045	--	0.094	100	100	--	2.7	--	0.54	--	0.77	--	16	--	5.0	0.12	--	--	36

Notes:
1. Metals analysis by EPA Method 6020.
2. Mercury analysis by EPA Method 7470A.
3. µg/L (ppb) = Micrograms per liter (parts per billion).
4. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision).
5. Bolded values indicate detected concentrations.
6. B = This result is an estimated concentration that is less than the Method Reporting Limit (MRL) and greater than the Method Detection Limit (MDL).
7. J2 = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. The precision goal of 30% was exceeded for this analyte by the results from the field duplicate or the lab duplicate.
8. J3 = The detected concentration of this analyte is equal to or less than 5 times the concentration detected in the method blank.
9. J4 = The detected concentration of this analyte is equal to or less than 5 times the concentration detected in the filter blank.
10. N = The Matrix Spike sample recovery is not within control limits.
11. Shading indicates concentration exceeds applicable screening level value.

Table 3
Storm Water Analytical Results: Oil and Grease
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	O&G mg/L (ppm)
Basin D	3/24/2007	< 5.0
Basin D	4/7/2007	<5.0
Basin D	5/3/2007	<5.0
Basin D - Dup	5/3/2007	<5.0
Basin D	11/16/2007	**1.6 J J2**
Basin D - Dup	11/16/2007	**2.2 J J2**
Basin L	3/24/2007	**11**
Basin L	5/3/2007	**12**
Basin L	5/20/2007	**18**
Basin L	9/28/2007	**12**
Basin M	4/7/2007	<5.0
Basin M	3/24/2007	<5.0
Basin M	5/3/2007	<5.0
Basin M	9/28/2007	**3.8 J**
Basin Q	3/24/2007	<5.0
Basin Q Dup	3/24/2007	<5.0
Basin Q	4/7/2007	<5.0
Basin Q	9/28/2007	**3.7 J**
Basin R	3/24/2007	<5.0
Basin R	4/7/2007	<5.0
Basin R	5/3/2007	**13**
Basin R	11/16/2007	**1.3 J**

Notes:

1. Oil and Grease (O&G) by EPA method 1664.
2. TPH_{og} = Total Petroleum Hydrocarbons as Oil and Grease.
3. mg/L (ppm) = Milligrams per liter (parts per million).
4. **Bolded** values indicate detected concentrations.
5. J = The result is an estimated concentration that is below the Method Reporting Limit (MRL) and above the Method Detection Limit (MDL).
6. J2 = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. The precision goal of 30% was exceeded for this analyte by the results from the primary and field duplicate sample or the lab duplicate.

Table 4
Storm Water Analytical Results: Phthalates
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Di-n-octyl Phthalate		Dimethyl Phthalate		Diethyl Phthalate		Di-n-butyl Phthalate		Benzyl Butyl Phthalate		Bis(2-ethylhexyl) Phthalate	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in µg/L (ppb)											
Basin D	4/7/2007	<0.20	--	0.28	--	0.13 J	--	0.15 J J3	--	0.062 J	--	1.4 J7	--
Basin D	11/16/2007	0.34	--	0.40	--	0.11 J	--	0.23 J3	--	0.062 J J3	--	1.1 J2	--
Basin D - Dup	11/16/2007	0.3	--	0.41	--	0.13 J	--	0.27 J3	--	0.077 J J3	--	1.8 J2	--
Basin L	3/24/2007	1.6	--	0.020 J	--	0.078 J	--	0.18 J J3	--	0.23	--	7.9	--
Basin L	5/3/2007	2.0	0.074 J	<0.20	<0.28	<0.20	0.22 J	0.19 J J3	0.25 J J3	0.50	<0.28	10	0.82
Basin L	5/20/2007	3.6	--	<0.20	--	<0.20	--	0.26 J3	--	1.6	--	8.3	--
Basin L	9/28/2007	1.3	--	<0.21	--	0.088 J J3	--	0.35 J3	--	<0.21	--	7.0	--
Basin M	3/24/2007	<0.20	--	0.041 J *	--	0.095 J *	--	0.66 *	--	0.13 J *	--	2.1 *	--
Basin M	4/7/2007	<0.20	--	0.066 J J5	--	0.091 J J5	--	0.088 J J3 J5	--	<0.20	--	0.76 J5 J7	--
Basin M	9/28/2007	<0.24	--	0.084 J	--	0.15 J	--	0.10 J J3	--	<0.24	--	0.8	--
Basin Q	3/24/2007	0.14 J	--	0.086 J	--	0.12 J	--	0.16 J J3	--	0.14 J	--	3.0	--
Basin Q	4/7/2007	<0.20	--	0.17 J	--	0.13 J	--	0.15 J	--	0.12 J	--	0.71 J7	--
Basin Q	9/28/2007	<0.21	<0.20	0.082 J	0.083 J	0.23	0.22	0.28 J3	0.28 J3	0.22	0.14 J J3	1.8	0.38 J
Basin R	3/24/2007	<0.20	--	0.24 J	--	0.12 J	--	0.17 J J3	--	0.27 J	--	0.66 J	--
Basin R	4/7/2007	<0.20 J7	--	0.20 J J5 *	--	0.15 J J5 *	--	0.23 J3 J5 *	--	0.37 J5 *	--	1.4 J5 J7 *	--
Basin R	5/3/2007	0.20 J	<0.25	0.14 J	<0.25	0.19 J	0.29	0.28 J J3	0.31 J3	0.81	0.17 J	2.4 J	0.65
Basin R	11/16/2007	0.045 J	--	0.20 J	--	0.11 J	--	0.24 J3	--	<0.013 J3	--	1.7	--
Applicable JSCS Screening Level Value		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.2	2.2

Notes:

1. Phthalates by EPA Method 525.2.
2. µg/L (ppb) = Micrograms per liter (parts per billion).
3. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision).
4. **Bolded** values indicate detected concentrations.
5. J = The result is an estimated concentration that is below the Method Reporting Limit (MRL) and above the Method Detection Limit (MDL).
6. J3 = The detected concentration of this analyte is equal to or less than 5 times the concentration detected in the method blank.
7. J5 = More than one of three surrogate recoveries was outside of control criteria likely due to matrix interference.
8. J7 = The matrix spike recovery for this analyte exceeded the control criteria.
9. J2 = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. The precision goal of 30% was exceeded for this analyte by the results from the primary and field duplicate sample or the lab duplicate.
10. * = The internal standards recoveries were outside of control criteria because of suspected matrix interference. The analytes associated may have a biased result.
11. Shading indicates concentration exceeds applicable screening level value.

Table 5
Storm Water Analytical Results: Organochlorine Pesticides
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	alpha-BHC		Hexachlorobenzene		beta-BHC		gamma-BHC (Lindane)		delta-BHC		Heptachlor		Aldrin		Heptachlor Epoxide		gamma-Chlordane		Endosulfan I	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in ng/L (ppt)																			
Basin L	3/24/2007	< 0.48 i	<0.48 i	< 2.0 i	<0.48	3.2 B P J3	3.0 B P J3	< 2.0 i	<1.1 i	<0.90 i	<0.48	< 0.48	<0.48	< 0.48 i	<0.48 i	< 0.63 i	<9.1 i	< 0.48 i	1.2 P	< 1.8 i	<1.2 i
Basin L	5/3/2007	<5.9 i	<14 i	<5.9 i	<5.9	<5.9	<5.9	4.5 B J P	3.4 B J P J3	<5.9	<5.9	5.5 J J6	<5.9 i	<5.9	<6.1	<5.9 i	<5.9 i	<5.9 i	<5.9	<5.9 i	5.1 J P J7
Basin L	5/20/2007	<5.2	<5.0 i	<5.2 i	<5.0	<5.6 i	<5.0	<5.2 i	3.1 J P	<5.2	<5.0	<5.2	<5.0 i	<5.2	<5.0	20 J7	2.6 J J7	<5.2	<5.0 i	<5.2	<5.0 i
Basin L	9/28/2007	<0.50 i	--	0.36 J	--	2.1 P	--	3.4 P	--	<0.94 i	--	<0.50 i	--	<0.50 i	--	3.0 P	--	7.7 P	--	<1.1 i	--
Basin M	3/24/2007	<0.49	<0.50 i	<1.7 i	<0.71 i	<1.3 i	<0.50	3.2	<0.50 i	1.2	1.4	<0.49 i	<0.56 i	<0.63 i	0.34 J	<1.2 i	<5.3 i	<0.49 i	<0.50 i	<0.59 I	1.7
Basin M	4/7/2007	<0.49 i	0.44 J P	<0.49 i	<0.48 i	<0.49 i	<0.48	1.0 P J3	0.93 P J3	0.41 J	0.64	<0.49 i	<0.56 i	< 0.85 i	<1.2 i	0.18 J P J7	<0.48 i	0.97 P	1.1 P	<0.49 i	<0.48 i
Basin M	5/3/2007	<4.8 i	2.8 J P J6	1.8 J P J7 J6	<4.8 i	<4.8	<4.8	<4.8 i	3.5 B J P J3	<4.8	2.0 J P J6	<4.8 i	<11 i	<4.8 i	<4.8 i	<4.8 i	<4.8	<4.8	<4.8	<4.8 i	<4.8 i
Basin M	9/28/2007	<0.50 i	--	<0.50 i	--	<1.2 i	--	<0.82 i	--	1.4 P	--	<0.50 i	--	<0.50 i	--	<0.52 i	--	<0.50	--	1.5	--
Basin Q	3/24/2007	<1.7 i	--	<0.71 i	--	<0.96 i	--	<0.50	--	<0.50	--	<0.50 i	--	<0.65 i	--	<0.99 i	--	<1.2 i	--	<0.50	--
Basin Q	4/7/2007	<0.49 i	<0.49	<0.49 i	<0.52 i	<0.49	<0.49	<0.67 i	0.90 P J3	<0.76 i	<1.1 i	<0.88 i	<1.2 i	<1.4 i	<1.8 i	<0.49 i	0.57 J7	<0.49 i	<0.50 i	0.79	0.93
Basin Q	9/28/2007	<0.53	<0.48	<0.53 i	<0.48 i	<4.5 i	<2.8 i	1.3 P	1.7	<2.2 i	<2.1 i	<0.62 i	<0.48 i	0.22 J P	<0.48 i	<0.83 i	<0.48 i	<0.97 i	<0.49 i	<0.98 i	<1.1 i
Basin R	3/24/2007	0.40 J J3	<0.81 i	1.4 P J3	2.7 P	<0.55	<0.59	3.1 P	5.5 P	<0.55 i	<1.2 i	0.96	2.7	0.71 P	<1.3 i	<0.55 i	<0.59	<0.65 i	<0.59 i	<0.55 i	<0.59
Applicable JSCS Screening Level Value		4.9	4.9	0.29	0.29	17	17	52	52	37	37	0.079	0.079	0.05	0.05	0.039	0.039	NA	NA	51	51

Please refer to notes at end of table.

Table 5
Storm Water Analytical Results: Organochlorine Pesticides
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	alpha-Chlordane		Dieldrin		4,4'-DDE		Endrin		Endosulfan II		4,4'-DDD		Endrin Aldehyde		Endosulfan Sulfate		4,4'-DDT		Endrin Ketone		Methoxychlor	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in ng/L (ppt)																					
Basin L	3/24/2007	< 1.6 i	<1.3 i	< 1.9 i	<1.5 i	3.8 P	<2.5 i	< 0.48	<0.48	< 0.95 i	<0.66 i	< 3.3 i	<11 i	< 0.48	<0.48	< 0.48	<0.48	< 2.8 i	<4.0 i	< 0.48	<0.48	< 1.8 i	<5.1 i
Basin L	5/3/2007	<5.9 i	<5.9 i	<5.9	<5.9	<5.9 i	<6.8 i	<5.9	<5.9	<5.9	<5.9 i	<5.9 i	<5.9 i	<5.9 i	<5.9 i	13	4.1 J P	<17 i	<12 i	<5.9	<5.9	<6.1 i	<5.9 i
Basin L	5/20/2007	16	13 P	<11 i	<5.0	<6.3 i	2.9 J P J7	<5.2	<5.0	<5.2	<5.0	4.5 J J7	<5.0 i	<12 i	5.9 P	<13 i	15 P	<22 i	<8.5 i	<5.2	<5.0	<12 i	<8.5 i
Basin L	9/28/2007	0.68	--	<0.50	--	<0.82 i	--	<0.50	--	<1.2 i	--	<0.50 i	--	<0.50	--	<0.50	--	<1.4 i	--	<0.85 i	--	<0.50	--
Basin M	3/24/2007	<0.49 i	<0.50	<0.84 i	<0.92 i	7.9 P	<2.5 i	<0.49	<0.50	<0.83 i	<0.50	<6.2 i	<3.6 i	<0.49	<0.50 i	<0.49	<0.50	13	12 P	<0.66 i	<0.50 i	<0.49	<0.55 i
Basin M	4/7/2007	<0.49 i	<0.48	<0.49 i	<0.48	0.76 P	<0.48	<0.49	<0.48 i	<1.5 i	<0.48 i	0.50	<0.48	1.6 P J2	< 0.57 i	<0.49	<0.48 i	6.1	7.9 P	<0.49 i	<0.48 i	<0.51 i	<0.48 i
Basin M	5/3/2007	<4.8	1.3 J J7	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8 i	4.4 J J6	<4.8	<4.8	<4.8	1.5 J P	10	9.0	<4.8	<4.8 i	6.5	<4.8 i
Basin M	9/28/2007	<0.50	--	0.79 P	--	<1.2 i	--	<0.50	--	<2.5 i	--	<1.4 i	--	5.9	--	<0.85 i	--	<5.0 i	--	2.0 P	--	2.0 P	--
Basin Q	3/24/2007	<0.54 i	--	<2.0 i	--	<2.7 i	--	<0.50	--	<5.5 i	--	<6.2 i	--	<3.4 i	--	<0.50	--	<2.2 i	--	<0.50 i	--	<2.4 i	--
Basin Q	4/7/2007	<0.49	<0.73 i	<0.49 i	<0.49	<0.49 i	0.66 P	0.25 J P	<0.49	<1.6 i	<0.99 i	<0.49 i	<0.50 i	2.3 P J2	3.3 P	0.74 P	<0.49 i	<2.4 i	<2.8 i	<0.49 i	<0.49 i	<0.49	0.92 P
Basin Q	9/28/2007	<0.91 i	<0.95 i	1.3 P	1.5 P	<1.7 i	2.1 P	<0.53	<0.93 i	<2.1 i	<2.3 i	1.8	0.89	5.9	5.3	<2.1 i	<2.0 i	<3.4 i	<3.9 i	0.69 P	0.65	2.0 P	<2.3 i
Basin R	3/24/2007	0.45 J P	<0.84 i	<0.55	<0.59	<0.61 i	<4.8 i	<0.55	2.2 P	<1.1 i	<9.2 i	<2.0 i	<18 i	1.3	<0.65 i	<0.55 i	<0.59	<1.3 i	<3.3 i	<0.56 i	1.9	<1.1 i	<4.1 i
DEQ 2004 AWQC (chronic)		NA	NA	0.054	0.054	0.22	0.22	36	36	51	51	0.31	0.31	NA	NA	89,000	89,000	0.22	0.22	NA	NA	30	30

Please refer to notes at end of table.

Table 5
Storm Water Analytical Results: Organochlorine Pesticides
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Toxaphene		Chlordane		Oxychlordane		2,4'-DDE		cis-Nonachlor		2,4'-DDD		trans-Nonachlor		2,4'-DDT		Mirex		Hexachloroethane		Hexachlorobutadiene	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in ng/L (ppt)																					
Basin L	3/24/2007	< 170 i	<120 i	<36 i	<21 i	<1.5 i	<1.0 i	<1.5 i	<0.91 i	<1.5 i	<0.81 i	2.4	2.0 P	<1.1 i	1.9 P J6	0.68 P	0.43 J P	2.3 P J6	<0.48	< 0.48	<1.3 i	< 0.66 i	<0.57 i
Basin L	5/3/2007	<520 i	<300 i	--	--	<12	<12	<5.9	<5.9	<5.9 i	<5.9 i	8.7	5.5 J P	<5.9	<5.9 i	3.4 J	2.6 J	<5.9	<5.9	<5.9	<5.9	<5.9 i	<5.9 i
Basin L	5/20/2007	<580 i	<480 i	--	--	<11 i	<10 i	<5.2	<5.0	<5.2 i	<5.0 i	10 P J6	<5.0 i	<5.2	<5.0 i	<5.2 i	<5.0 i	<11 i	4.1 J	<5.2	<5.0	<5.2 i	<5.0 i
Basin L	9/28/2007	<410 i	--	--	--	<0.99 i	--	<0.50	--	<0.50 i	--	<0.50 i	--	<0.52 i	--	<4.1 i	--	2.4	--	<0.50 i	--	<0.68 i	--
Basin M	3/24/2007	<150 i	<45 i	<19 i	<13 i	17 P J6	14 P J6	<0.49	<0.50	<1.1 i	<2.4 i	<0.97	<1.0 i	<0.53 i	1.0 P J6	1.5 P	3.2	<0.49	<0.50	<0.49	<0.50	<0.49	<0.50 i
Basin M	4/7/2007	<41 i	< 45 i	<16 i	<15 i	<0.97	<1.1 i	0.73 P J7	<0.48	0.53 P	<0.48	<0.97	1.3 J7	<0.49	0.31 J	<0.49	<0.48	<0.49	<0.48	<0.49 i	<0.48 i	<0.49	<0.48
Basin M	5/3/2007	<240 i	<240 i	--	--	7.0 J P J7	13 P J7	<4.8	<4.8	<4.8	<4.8 i	2.2 J	<4.8 i	<4.8	<4.8	1.9 J P	<4.8 i	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Basin M	9/28/2007	<130 i	--	--	--	<1.0 i	--	0.53 P	--	<1.8 i	--	2.7 i	--	<0.50 i	--	3.0 B J3	--	0.69	--	<0.50 i	--	<0.61 i	--
Basin Q	3/24/2007	<160 i	--	<28 i	--	<3.9 i	--	<1.6 i	--	<1.2 i	--	2.7 P	--	<0.50	--	2.7 P	--	<0.50	--	<0.50	--	<0.62 i	--
Basin Q	4/7/2007	<42 i	<42 i	<36 i	<19 i	<0.98	<0.97	<0.49 i	<0.51 i	0.98 P	<0.49	<0.98	<0.97	<0.49	<0.49 i	<0.54 i	<0.49 i	<0.49	<0.49	<0.56 i	<0.85 i	<0.49	<0.49 i
Basin Q	9/28/2007	<96 i	<50 i	--	--	<1.1	0.54 J P	1.5 P	<0.48	<0.91 i	<0.53 i	<1.6 i	<0.48 i	<0.53 i	<0.48	2.7 B J3	1.9 B P J3	<0.53 i	<0.48 i	0.27 JP	<0.48 i	<0.53 i	<0.48 i
Basin R	3/24/2007	<68 i	<89 i	<17 i	<25 i	6.7 J6	23 J6	<0.90 i	<6.4 i	<0.55 i	<0.60 i	<1.1	<1.2	<0.55 i	<0.59	<0.55 i	0.97	<0.55	<0.59	<1.3 i	<6.4 i	<0.55	<5.0 i
DEQ 2004 AWQC (chronic)		0.2	0.2	0.81	0.81	190	190	0.22	0.22	190	190	0.31	0.31	190	190	0.22	0.22	NA	NA	3,300	3,300	860	860

Notes:
1. Organochlorine Pesticides by EPA Method 8081A.
2. ng/L (ppt) = Nanograms per liter (parts per trillion).
3. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision).
4. Bolded values indicate detected concentrations.
5. P = The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 25% between the two analytical results.
6. J = The result is an estimated concentration that is below the Method Reporting Limit (MRL) and above the Method Detection Limit (MDL).
7. i = The MRL/MDL has been increased due to chromatographic interference.
8. J3 = The detected concentration of this analyte is equal to or less than 5 times the concentration detected in the method blank.
9. J6 = The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recovery for this analyte exceeded the control criteria.
10. J7 = The matrix spike/matrix spike duplicate (MS/MSD) recovery for this analyte exceeded the control criteria.
11. J2 = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. The precision goal of 30% was exceeded for this analyte by the results from the primary and field duplicate sample or the lab duplicate.
12. Shading indicates concentration exceeds applicable screening level value.

Table 6
Storm Water Analytical Results: Polychlorinated Biphenyl Aroclors
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Aroclor 1016		Aroclor 1221		Aroclor 1232		Aroclor 1242		Aroclor 1248		Aroclor 1254		Aroclor 1260		Aroclor 1262		Aroclor 1268	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in µg/L (ppb)																	
Basin L	3/24/2007	<0.0048	<0.0048	<0.0096	<0.0096	<0.0048	<0.0048	0.039	0.021 P	<0.0048	<0.0048	0.043	0.039	0.038	0.029	<0.0048	<0.0048	<0.0048	<0.0048
Basin L	5/3/2007	<0.0059	<0.0059	<0.012	<0.012	<0.0059	<0.0059	0.03	0.02	<0.0059	<0.0059	0.045	0.034 P	0.039	0.028	<0.0059	<0.0059	0.0044 J P	<0.0059
Basin L	5/20/2007	<0.0052	<0.0050	<0.011	<0.010	<0.0052	<0.0050	0.094	0.036 P	<0.0052	<0.0050	0.063	0.015	0.036	0.011	<0.0052	<0.0050	<0.0052	<0.0050
Basin L	9/28/2007	<0.039 i	--	<0.047 i	--	<0.046 i	--	<0.055 i	--	<0.039 i	--	<0.036 i	--	<0.020 i	--	<0.019 i	--	<0.030 i	--
Basin M	3/24/2007	<0.0049	<0.0050	<0.0097	<0.010	<0.0049	<0.0050	<0.0049	<0.0050	<0.0049	<0.0050	0.041	0.043	0.048	0.049	<0.0049	<0.0050	<0.0049	<0.0050
Basin M	4/7/2007	<0.0049	<0.0048	<0.0097	<0.0096	<0.0049	<0.0048	<0.0049	<0.0048	<0.0049	<0.0048	0.021 J2	0.019	0.024	0.024	<0.0049	<0.0048	<0.0049	<0.0048
Basin M	5/3/2007	<0.0048	<0.0048	<0.0096	<0.0096	<0.0048	<0.0048	<0.0048	<0.0048 i	<0.0048	<0.0048	0.027	0.022	0.031	0.026	<0.0048	<0.0048	<0.0048	<0.0048
Basin M - Dup	5/3/2007	<0.0048	<0.0048	<0.0096	<0.0096	<0.0048	<0.0048	0.018 P	<0.0064 i	<0.0048	<0.0048	0.027	0.025	0.033	0.027	<0.0048	<0.0048	0.0098 P	<0.0048
Basin M	9/28/2007	<0.015 i	--	<0.013 i	--	<0.012 i	--	<0.010 i	--	<0.017 i	--	<0.021 i	--	<0.014 i	--	<0.0097 i	--	<0.0081 i	--
Basin Q	3/24/2007	<0.0050	--	<0.010	--	<0.0050	--	0.063	--	<0.0050	--	0.039	--	0.029	--	<0.0050	--	<0.0050	--
Basin Q - DUP	3/24/2007	<0.0059	--	<0.012	--	<0.0059	--	0.063	--	<0.0059	--	0.046	--	0.027	--	<0.0059	--	<0.0059	--
Basin Q	4/7/2007	<0.0049	<0.0049	<0.0098	<0.0097	<0.0049	<0.0049	0.028	0.023	<0.0049	<0.0049	0.015 J2	0.016	0.0089	0.01	<0.0049	<0.0049	<0.0049	<0.0049
Basin Q	9/28/2007	<0.013 i	<0.0057 i	<0.049 i	<0.033 i	<0.022 i	<0.0086 i	<0.018 i	<0.0076 i	<0.012 i	<0.0048 i	<0.019 i	<0.0048 i	<0.0096 i	<0.0048 i	<0.0056 i	<0.0048 i	<0.0083 i	<0.0048 i
Basin R	3/24/2007	<0.0055 i	<0.0091 i	<0.011 i	<0.016 i	<0.0086 i	<0.019 i	<0.0084 i	<0.020 i	<0.0055 i	<0.011 i	<0.0059 i	<0.011 i	<0.0055	<0.0059 i	<0.0055	<0.0059	<0.0055	<0.0059
Basin R	4/7/2007	<0.0053	<0.0049	<0.011	<0.0097	<0.0053	<0.0049	0.099	0.024	<0.0053	<0.0049	0.068 J2	0.014	0.030	0.0082	<0.0053	<0.0049	<0.0053	<0.0049
Basin R	5/3/2007	<0.0053	<0.0069	<0.011	<0.014	<0.0053	<0.0069	0.12	0.09	<0.0053	<0.0069	0.16	0.080	0.077	0.036	<0.0053	<0.0069	0.024 P	0.013
Basin R	11/16/2007	<0.0011	--	<0.0011	--	<0.0011	--	0.015	--	<0.0011	--	<0.0011	--	<0.0011	--	<0.0011	--	<0.0011	--
Basin R - DUP	11/16/2007	<0.001	--	<0.001	--	<0.001	--	0.016	--	<0.001	--	<0.001	--	<0.001	--	<0.001	--	<0.001	--
Applicable JSCS Screening Level Value		0.96	0.96	0.034	0.034	0.034	0.034	0.034	0.034	0.034	0.034	0.033	0.033	0.034	0.034	NA	NA	NA	NA

Notes:
1. PCB Aroclors by EPA Method 8082.
2. µg/L (ppb) = Micrograms per liter (parts per billion).
3. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision).
4. Bolded values indicate detected concentrations.
5. P = The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
6. i = The Method Reporting Limit (MRL) / Method Detection Limit (MDL) has been increased due to chromatographic interference.
7. J2 = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. The precision goal of 30% was exceeded for this analyte by the results from the primary and field duplicate sample or the lab duplicate.
8. Shading indicates concentration exceeds applicable screening level value.

Table 7
Storm Water Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-1		PCB-2		PCB-3		PCB-4/10		PCB-5/8		PCB-6		PCB-7/9		PCB-11		PCB-12/13		PCB-14		PCB-15		PCB-16/32	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	<25	<24.8	<25	<24.8	<25	<24.8	<49.9	<49.6	127	45.5 J	<49.9	<49.6	<49.9	<49.6	110	72	<49.9	<49.6	<49.9	<49.6	95.3	<49.6	116	47.9
Basin D - DUP	11/16/2007	<26.3	--	<26.3	--	<26.3	--	<52.7	--	111	--	<52.7	--	<52.7	--	106	--	<52.7	--	<52.7	--	92.2	--	107	--
Basin D	1/15/2008	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	63	<57.9	221	<57.9	<49.5	<57.9	<49.5	<57.9	188	<57.9	<49.5	<57.9	<49.5	<57.9	138	<57.9	204	38
Basin D	1/26/2008	26.4	<27.1	<26.1	<27.1	<26.1	<27.1	118	<54.2	291	111	66.8	<54.2	<52.2	<54.2	182	77.5	<52.2	<54.2	<52.2	<54.2	137	<54.2	267	83.1
Basin L	3/24/2007	54.9	--	<24.6	--	46.8	--	251	--	1,010	--	194	--	88.7	--	1,830	--	93.1	--	<49.1	--	759	--	1,130	--
Basin L	5/3/2007	47.9	57.5	<30.8	36.5	43.5	52.3	235	96.1	871	488	175	87.2	<71.1 I	58.8	537	1,350	<72.5 I	<54.5	<61.5	<54.5	675	186	1,060	239
Basin L	5/20/2007	92.4 B J3	--	45.6	--	84.5	--	590	--	2,380	--	520	--	243	--	2,000	--	317	--	<55.2	--	2,550	--	4,350	--
Basin L	9/28/2007	82.2	--	35.1	--	80.6	--	393	--	1,510	--	308	--	136	--	828	--	169	--	<49.6	--	1,260	--	1,910	--
Basin M	3/24/2007	<25.2	--	<25.2	--	<25.2	--	78.2	--	371	--	<50.4	--	<50.4	--	1,390	--	<50.4	--	<50.4	--	317	--	348	--
Basin M	4/7/2007	37.5 B J3	--	<25.0	--	42.4	--	<49.9	--	199	--	<49.9	--	<49.9	--	575	--	<49.9	--	<49.9	--	118	--	110	--
Basin M	5/3/2007	37	--	<24.8	--	31.4	--	<72.9 I	--	221	--	<49.6	--	<49.6	--	398	--	<49.6	--	<49.6	--	177	--	162	--
Basin M	9/28/2007	41.3	--	<24.8	--	43.6	--	123	--	512	--	96.5	--	<49.6	--	721	--	<49.6	--	<49.6	--	341	--	405	--
Basin Q	3/24/2007	80.6	--	<24.6	--	65.9	--	349	--	1,210	--	258	--	105	--	590	--	121	--	<49.2	--	996	--	1,770	--
Basin Q	4/7/2007	95.8 B J3	--	<24.7	--	49.7	--	197	--	579	--	121	--	<49.4	--	1,390	--	<49.4	--	<49.4	--	419	--	645	--
Basin Q	9/28/2007	30.8	<25.1	<25.1	<25.1	25.4	<25.1	157	<50.3	458	115	98.9	<50.3	<50.1	<50.3	98.1	<50.3	<50.1	<50.3	<50.1	<50.3	348	<50.3	466	114
Basin R	3/24/2007	149	--	39.9	--	84.1	--	301	--	1,070	--	183	--	<83.5 I	--	1,370	--	67.7	--	<59.7	--	605	--	733	--
Basin R	4/7/2007	163 B	--	30.6	--	89.7	--	520	--	1,440	--	297	--	125	--	426	--	131	--	<49.5	--	923	--	1,360	--
Basin R	5/3/2007	3,060	60.10	594	<24.5	1,650	33.8	9,420	176	30,300	356	6,440	79.8	2,780	<49.1	3,320	275	3,330	<49.1	<51.8	<49.1	23,600	175	29,200	226
Basin R	11/16/2007	985	--	864	--	776	--	495	--	1,480	--	540	--	330	--	439	--	730	--	166	--	706	--	688	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	PCB-17		PCB-18		PCB-19		PCB-20/21/33		PCB-22		PCB-23		PCB-24/27		PCB-25		PCB-26		PCB-28		PCB-29		PCB-30	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	60.4	<24.8	160	63.1	<25	<24.8	177	59.3	116	39.5	<25	<24.8	<25	<24.8	<25	<24.8	43.4	<24.8	210	80.2	<25	<24.8	<25	<24.8
Basin D - DUP	11/16/2007	53.3	--	143	--	<26.3	--	157	--	105	--	<26.3	--	<26.3	--	<26.3	--	36.6	--	203	--	<26.3	--	<26.3	--
Basin D	1/15/2008	111	<28.9	289	51.6	27.9	<28.9	373	39.2	229	<28.9	<24.7	<28.9	<24.7	<28.9	46.9	<28.9	81.1	<28.9	457	51.1	<24.7	<28.9	<24.7	<28.9
Basin D	1/26/2008	150	45.6	412	135	41.4	<27.1	374	74.7	204	40.8	<26.1	<27.1	32.6	<27.1	46.1	<27.1	80.1	<27.1	469	89.3	<26.1	<27.1	<26.1	<27.1
Basin L	3/24/2007	628	--	1,600	--	140	--	1,700	--	1,160	--	<24.6	--	126	--	212	--	382	--	2,340	--	<24.6	--	<24.6	--
Basin L	5/3/2007	522	143	1,420	365	141	<27.3	1,740	396	1,160	232	<30.8	<27.3	118	33	223	59.30	428	94.60	2,530	572	<30.8	<27.3	<30.8	<27.3
Basin L	5/20/2007	2,240	--	5,320	--	510	--	6,360	--	5,780	--	<27.6	--	539	--	933	--	1,730	--	10,700	--	94.5	--	<27.6	--
Basin L	9/28/2007	935	--	2,320	--	239	--	3,060	--	2,400	--	<24.8	--	220	--	395	--	808	--	4,460	--	34.0	--	<24.8	--
Basin M	3/24/2007	206	--	497	--	53.8	--	354	--	235	--	<25.2	--	45.5	--	64.9	--	111	--	655	--	<25.2	--	<25.2	--
Basin M	4/7/2007	55.5	--	162	--	36.30	--	101	--	78.3	--	<25.0	--	<25.0	--	<25.0	--	35.7	--	215	--	<25.0	--	<25.0	--
Basin M	5/3/2007	75.9	--	197	--	39.8	--	167	--	118	--	<24.8	--	<24.8	--	25.8	--	57	--	294	--	<24.8	--	<24.8	--
Basin M	9/28/2007	217	--	506	--	63	--	569	--	418	--	<24.8	--	51.9	--	90.5	--	156	--	919	--	<24.8	--	<24.8	--
Basin Q	3/24/2007	945	--	2,440	--	216	--	2,050	--	1,290	--	<24.6	--	203	--	272	--	512	--	3,000	--	<24.6	--	<24.6	--
Basin Q	4/7/2007	359	--	924	--	85.6	--	821	--	513	--	<24.7	--	78.7	--	116	--	219	--	1,270	--	<24.7	--	<24.7	--
Basin Q	9/28/2007	241	51.5	623	153	70.4	<25.1	596	121	395	78.4	<25.1	<25.1	55.2	<25.1	77.3	<25.1	147	29.1	808	157	<25.1	<25.1	<25.1	<25.1
Basin R	3/24/2007	429	--	1,060	--	99.2	--	1,070	--	626	--	<29.8	--	84.4	--	137	--	238	--	1,470	--	<29.8	--	<29.8	--
Basin R	4/7/2007	684	--	1,770	--	202	--	1,430	--	997	--	<24.7	--	163	--	203	--	375	--	2,210	--	<24.7	--	<24.7	--
Basin R	5/3/2007	15,800	125	41,400	347	4,300	45.7	40,000	222	23,900	137	52.10	<24.5	3,370	29.30	5,000	31.50	9,460	58.40	54,000	318	437	<24.5	<25.9	<24.5
Basin R	11/16/2007	368	--	1,020	--	89.4	--	1080	--	659	--	<25	--	99.5	--	126	--	254	--	1230	--	<25	--	<25	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Please refer to notes at end of table.

Table 7
Storm Water Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-31		PCB-34		PCB-35		PCB-36		PCB-37		PCB-38		PCB-39		PCB-40		PCB-41/64/71/72		PCB-42/59		PCB-43/49		PCB-44	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	217	63.5	<25	<24.8	<25	<24.8	<25	<24.8	112	<29.3 I	<25	<24.8	<25	<24.8	48.7	<24.8	176	54.7	69.4	<24.8	119	35.2	218	69.7
Basin D - DUP	11/16/2007	206	--	<26.3	--	<26.3	--	<26.3	--	111	--	<26.3	--	<26.3	--	47.9	--	172	--	<64.5 I	--	116	--	218	--
Basin D	1/15/2008	443	44.7	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	239	<28.9	<24.7	<28.9	<24.7	<28.9	92.4	<28.9	451	49.3	160	<28.9	306	36.2	525	61
Basin D	1/26/2008	418	87.9	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	194	27.3	<26.1	<27.1	<26.1	<27.1	107	<27.1	495	65.7	182	<27.1	319	45.5	518	78.3
Basin L	3/24/2007	2,190	--	<24.6	--	69	--	<24.6	--	1,060	--	<24.6	--	<24.6	--	526	--	2,390	--	868	--	1,560	--	2,640	--
Basin L	5/3/2007	2,320	545	<30.8	<27.3	71.90	<27.3	<30.8	<27.3	1,010	133	<30.8	<27.3	<30.8	<27.3	565	<27.3	2,600	276	930	100	1,650	227	2,690	501
Basin L	5/20/2007	10,500	--	<27.6	--	276	--	<27.6	--	5,000	--	49.60	--	<27.6	--	1,980	--	9,550	--	3,550	--	6,000	--	9,270	--
Basin L	9/28/2007	4,420	--	<24.8	--	137	--	<24.8	--	2,450	--	<24.8	--	<24.8	--	1,430	--	5,320	--	2,090	--	3,280	--	6,090	--
Basin M	3/24/2007	537	--	<25.2	--	27.3	--	<25.2	--	245	--	<25.2	--	<25.2	--	163	--	712	--	274	--	620	--	1,040	--
Basin M	4/7/2007	197	--	<25.0	--	<25.0	--	<25.0	--	94.7	--	<25.0	--	<25.0	--	215	--	1,140	--	204	--	807	--	2,760	--
Basin M	5/3/2007	244	--	<24.8	--	<24.8	--	<24.8	--	147	--	<24.8	--	<24.8	--	169	--	778	--	186	--	507	--	1,440	--
Basin M	9/28/2007	776	--	<24.8	--	35.7	--	<24.8	--	430	--	<24.8	--	<24.8	--	226	--	839	--	303	--	551	--	1,060	--
Basin Q	3/24/2007	2,390	--	<24.6	--	58.3	--	<24.6	--	1,100	--	<24.6	--	<24.6	--	705	--	3,190	--	1,260	--	2,180	--	3,550	--
Basin Q	4/7/2007	1,280	--	<24.7	--	34.3	--	<24.7	--	425	--	<24.7	--	<24.7	--	241	--	1,120	--	418	--	787	--	1,290	--
Basin Q	9/28/2007	741	131	<25.1	<25.1	<25.1	<25.1	<25.1	<25.1	371	60.5	<25.1	<25.1	<25.1	<25.1	255	36.9	933	131	365	54.1	635	89.4	1,280	182
Basin R	3/24/2007	1,320	--	<29.8	--	<36.0 I	--	<29.8	--	471	--	<29.8	--	<29.8	--	185	--	922	--	309	--	572	--	846	--
Basin R	4/7/2007	1,990	--	<24.7	--	59.8	--	<24.7	--	821	--	<24.7	--	<24.7	--	488	--	2,500	--	872	--	1,710	--	2,600	--
Basin R	5/3/2007	51,200	314	181	<24.5	1,630	<24.5	<25.9	<24.5	24,500	100	244	<24.5	49	<24.5	12,300	63.20	51,000	258	20,800	99.8	36,700	188	59,700	281
Basin R	11/16/2007	1220	--	<25	--	54.7	--	<25	--	694	--	<25	--	<25	--	256	--	905	--	351	--	607	--	1150	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	PCB-45		PCB-46		PCB-47		PCB-48/75		PCB-50		PCB-51		PCB-52/69		PCB-53		PCB-54		PCB-55		PCB-56/60		PCB-57	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	34.2	<24.8	<25	<24.8	43	<24.8	40.2	<24.8	<25	<24.8	<25	<24.8	156	52.5	<25	<24.8	<25	<24.8	<25	<24.8	140	38.3	<25	<24.8
Basin D - DUP	11/16/2007	<26.3	--	<26.3	--	48	--	40.9	--	<26.3	--	<26.3	--	164	--	<26.3	--	<26.3	--	<26.3	--	149	--	<26.3	--
Basin D	1/15/2008	63.9	<28.9	28	<28.9	98.8	<28.9	99.7	<28.9	<24.7	<28.9	<24.7	<28.9	527	48.8	54.6	<28.9	<24.7	<28.9	<24.7	<28.9	349	<28.9	<24.7	<28.9
Basin D	1/26/2008	79.8	<27.1	36.8	<27.1	105	<27.1	124	<27.1	<26.1	<27.1	<26.1	<27.1	429	72.5	69.9	<27.1	<26.1	<27.1	<26.1	<27.1	336	28.1	<26.1	<27.1
Basin L	3/24/2007	349	--	158	--	591	--	534	--	<24.6	--	102	--	2,310	--	288	--	<24.6	--	71.5	--	1,970	--	<24.6	--
Basin L	5/3/2007	383	<36.1 I	178	<27.3	552	108	518	72.9	<30.8	<27.3	108	<27.3	2,650	292	306	32.40	<30.8	<27.3	<52.2 I	<27.3	1,790	204	<30.8	<27.3
Basin L	5/20/2007	1,470	--	661	--	2,100	--	2,120	--	<27.6	--	373	--	7,470	--	1,090	--	<27.6	--	237	--	7,940	--	52.00	--
Basin L	9/28/2007	757	--	361	--	1,210	--	1,110	--	<24.8	--	183	--	4,090	--	541	--	<24.8	--	140	--	3,780	--	<24.8	--
Basin M	3/24/2007	116	--	53.5	--	309	--	123	--	<25.2	--	52.8	--	1,350	--	115	--	<25.2	--	<25.2	--	451	--	<25.2	--
Basin M	4/7/2007	57.7	--	31.1	--	144	--	80	--	<25.0	--	<25.0	--	4,610	--	72.6	--	<25.0	--	103	--	1,460	--	<25.0	--
Basin M	5/3/2007	72.8	--	48.5	--	135	--	83.4	--	<24.8	--	29.4	--	2,200	--	74.4	--	<24.8	--	34.8	--	694	--	<24.8	--
Basin M	9/28/2007	116	--	54.9	--	227	--	155	--	<24.8	--	36.9	--	856	--	103	--	<24.8	--	31.8	--	556	--	<24.8	--
Basin Q	3/24/2007	570	--	235	--	757	--	714	--	<24.6	--	151	--	3,240	--	434	--	<24.6	--	52.6	--	1,490	--	<24.6	--
Basin Q	4/7/2007	188	--	89	--	303	--	256	--	<24.7	--	55.2	--	1,190	--	158	--	<24.7	--	<24.7	--	614	--	<24.7	--
Basin Q	9/28/2007	140	<27.4 I	68.5	<25.1	194	32	188	32.5	<25.1	<25.1	34.1	<25.1	1,090	136	119	<25.1	<25.1	<25.1	<25.1	<25.1	436	53.4	<25.1	<25.1
Basin R	3/24/2007	137	--	67.6	--	211	--	193	--	<29.8	--	40.7	--	779	--	104	--	<29.8	--	<29.8	--	497	--	<29.8	--
Basin R	4/7/2007	373	--	167	--	594	--	511	--	<24.7	--	117	--	2,340	--	336	--	<24.7	--	48.3	--	1,430	--	<24.7	--
Basin R	5/3/2007	8,720	47.70	3,930	<24.5	12,500	64.3	11,700	62.5	111	<24.5	2,330	<24.5	55,700	276	6,900	39.40	117	<24.5	949	<24.5	29,600	149	251	<24.5
Basin R	11/16/2007	169	--	72.4	--	200	--	207	--	<25	--	48.6	--	857	--	127	--	<25	--	22.5 J	--	645	--	<25	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Please refer to notes at end of table.

Table 7
Storm Water Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-58		PCB-61/70		PCB-62		PCB-63		PCB-65		PCB-67		PCB-68		PCB-73		PCB-74		PCB-76/66		PCB-77		PCB-78	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	<25	<24.8	214	56.1	<25	<24.8	<25	<24.8	<25	<24.8	<25	<24.8	<25	<24.8	<25	<24.8	82.4	<24.8	163	41.9	29.3	9 J	<25	<24.8
Basin D - DUP	11/16/2007	<26.3	--	210	--	<26.3	--	<26.3	--	<26.3	--	<26.3	--	<26.3	--	<26.3	--	82.5	--	163	--	27.9	--	<26.3	--
Basin D	1/15/2008	<24.7	<28.9	566	34.4	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	202	<28.9	375	31.6	63.9	4.27 J	<24.7	<28.9
Basin D	1/26/2008	<26.1	<27.1	496	52.4	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	376	35	53.8 B	6.46 J,B	<26.1	<27.1
Basin L	3/24/2007	<24.6	--	2,860	--	<24.6	--	88	--	<24.6	--	114	--	<24.6	--	<24.6	--	1,240	--	2,130	--	330	--	<24.6	--
Basin L	5/3/2007	<30.8	<27.3	2,840	482	<30.8	<27.3	78.1	<27.3	<30.8	<27.3	79.1	<27.3	<30.8	<27.3	<30.8	<27.3	1,100	162	2,020	263	348	32.9 B	<30.8	<27.3
Basin L	5/20/2007	<27.6	--	10,000	--	<27.6	--	354	--	<27.6	--	439	--	<27.6	--	<27.6	--	4,490	--	8,270	--	1,150 B	--	<27.6	--
Basin L	9/28/2007	<24.8	--	5,140	--	<24.8	--	177	--	<24.8	--	220	--	<24.8	--	<24.8	--	2,130	--	4,270	--	767	--	<24.8	--
Basin M	3/24/2007	<25.2	--	996	--	<25.2	--	<25.2	--	<25.2	--	<25.2	--	<25.2	--	<25.2	--	330	--	652	--	91.2	--	<25.2	--
Basin M	4/7/2007	<25.0	--	7,710	--	<25.0	--	61.5	--	<25.0	--	<25.0	--	<25.0	--	<25.0	--	1,290	--	1,680	--	86.6	--	93.9	--
Basin M	5/3/2007	<24.8	--	3,140	--	<24.8	--	<30.5 I	--	<24.8	--	<24.8	--	<24.8	--	<24.8	--	585	--	861	--	98.3	--	<24.8	--
Basin M	9/28/2007	<24.8	--	1,080	--	<24.8	--	32.6	--	<24.8	--	38.6	--	<24.8	--	<24.8	--	399	--	819	--	157	--	<24.8	--
Basin Q	3/24/2007	<24.6	--	2,580	--	<24.6	--	80.5	--	<24.6	--	103	--	<24.6	--	<24.6	--	1,010	--	1,780	--	228	--	<24.6	--
Basin Q	4/7/2007	<24.7	--	1,120	--	<24.7	--	34.6	--	<24.7	--	47.9	--	<24.7	--	<24.7	--	437	--	727	--	98.0	--	<24.7	--
Basin Q	9/28/2007	<25.1	<25.1	850	90.7	<25.1	<25.1	<25.1	<25.1	<25.1	<25.1	28.4	<25.1	<25.1	<25.1	<25.1	<25.1	279	33.3	597	66.5	85.4	<10.6 *	<25.1	<25.1
Basin R	3/24/2007	<29.8	--	779	--	<29.8	--	<29.8	--	<29.8	--	33.5	--	<29.8	--	<29.8	--	320	--	572	--	91.6	--	<29.8	--
Basin R	4/7/2007	<24.7	--	2,030	--	<24.7	--	74.8	--	<24.7	--	92	--	<24.7	--	<24.7	--	907	--	1,700	--	246	--	<24.7	--
Basin R	5/3/2007	75	<24.5	48,700	233	38.30	<24.5	1,360	<24.5	50.70	<24.5	1,820	<24.5	178	<24.5	<25.9	<24.5	18,000	91.3	33,500	172	7,030	27.3 B	<25.9	<24.5
Basin R	11/16/2007	<25	--	1040	--	<25	--	33.7	--	<25	--	42.4	--	<25	--	<25	--	405	--	739	--	132	--	<25	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	PCB-79		PCB-80		PCB-81		PCB-82		PCB-83		PCB-84/92		PCB-85/116		PCB-86		PCB-87/117/125		PCB-88/91		PCB-89		PCB-90/101	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	<25	<24.8	<25	<24.8	<2.07 *	<1.95 *	<25	<24.8	<25	<24.8	85.9	<24.8	38.3	<24.8	<25	<24.8	87.6	<24.8	25	<24.8	<25	<24.8	236	66.7
Basin D - DUP	11/16/2007	<26.3	--	<26.3	--	<3.67 *	--	44.6	--	<26.3	--	85	--	<35.7 I	--	<26.3	--	91.7	--	<26.3	--	<26.3	--	240	--
Basin D	1/15/2008	<24.7	<28.9	<24.7	<28.9	2.04 J	<1.56*	93.4	<28.9	<24.7	<28.9	272	<28.9	117	<28.9	<24.7	<28.9	278	<28.9	89.5	<28.9	<24.7	<28.9	657	30.2
Basin D	1/26/2008	<26.1	<27.1	<26.1	<27.1	4.03 J	<2.21 *	70.1	<27.1	<26.1	<27.1	153	<27.1	86.9	<27.1	<26.1	<27.1	161	<27.1	60.1	<27.1	<26.1	<27.1	344	<27.1
Basin L	3/24/2007	33.2	--	<24.6	--	11.2 J	--	504	--	<24.6	--	1,410	--	613	--	26.9	--	1,390	--	446	--	48.3	--	3,540	--
Basin L	5/3/2007	36.20	<27.3	<30.8	<27.3	<9.60 *	<7.66 *	622	33.60	<30.8	<27.3	1,460	109	683	<40.8 I	38.80	<27.3	1,580	101	487	30.80	51.40	<27.3	3,550	285
Basin L	5/20/2007	77.7	--	<27.6	--	<56.8 I *	--	1,230	--	<27.6	--	2,580	--	1,390	--	106	--	2,780	--	954	--	155	--	5,650	--
Basin L	9/28/2007	<35.8 I	--	<24.8	--	86.9	--	886	--	<24.8	--	1,450	--	598	--	<24.8	--	1,750	--	527	--	65.6	--	3,480	--
Basin M	3/24/2007	28.1	--	<25.2	--	<4.46 *	--	449	--	<25.2	--	1,490	--	625	--	<25.2	--	1,370	--	444	--	33.9	--	3,720	--
Basin M	4/7/2007	253	--	<25.0	--	<12.6 *	--	4,110	--	<25.0	--	15,200	--	4,730	--	97.2	--	18,000	--	2,820	--	160	--	43,300	--
Basin M	5/3/2007	<81.3 I	--	<24.8	--	<7.21 *	--	1,470	--	<24.8	--	5,060	--	1,710	--	<24.8	--	6,370	--	1,020	--	62.1	--	15,700	--
Basin M	9/28/2007	<24.8	--	<24.8	--	32.3	--	265	--	<24.8	--	563	--	275	--	<24.8	--	595	--	188	--	<24.8	--	1,480	--
Basin Q	3/24/2007	29.9	--	<24.6	--	<9.01 *	--	495	--	<24.6	--	1,370	--	578	--	<24.6	--	1,410	--	442	--	48.5	--	3,220	--
Basin Q	4/7/2007	<24.7	--	<24.7	--	5.67 J	--	186	--	<24.7	--	522	--	231	--	<24.7	--	541	--	176	--	<24.7	--	1,290	--
Basin Q	9/28/2007	<25.1	<25.1	<25.1	<25.1	28.9	<4.92 *	213	<25.1	<25.1	<25.1	465	38.3	217	<25.1	<25.1	<25.1	487	42.8	153	<25.1	<25.1	<25.1	1,110	84.0
Basin R	3/24/2007	<29.8	--	<29.8	--	<11.6 *	--	127	--	<29.8	--	283	--	143	--	<29.8	--	330	--	82.8	--	<29.8	--	684	--
Basin R	4/7/2007	<24.7	--	<24.7	--	<11.7 *	--	345	--	<24.7	--	855	--	428	--	<24.7	--	898	--	316	--	46.3	--	1,890	--
Basin R	5/3/2007	479	<24.5	<25.9	<24.5	<22.0	<6.51 *	9,110	32.40	<25.9	<24.5	22,800	86.50	10,200	<24.5	356	<24.5	26,800	<24.5	7,490	31.30	781	<24.5	53,700	195
Basin R	11/16/2007	<25	--	<25	--	<9.8 *	--	184	--	<25	--	376	--	165	--	<25	--	373	--	125	--	<25	--	802	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Please refer to notes at end of table.

Table 7
Storm Water Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-93		PCB-94		PCB-95/98/102		PCB-96		PCB-97		PCB-99		PCB-100		PCB-103		PCB-104		PCB-105		PCB-106/118		PCB-107/109	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	<25	<24.8	<25	<24.8	166	51.7	<25	<24.8	61.5	<24.8	68.9	<24.8	<25	<24.8	<25	<24.8	<25	<24.8	104	<26.2 I	234	55	<25	<24.8
Basin D - DUP	11/16/2007	<26.3	--	<26.3	--	165	--	<26.3	--	70.7	--	72.1	--	<26.3	--	<26.3	--	<26.3	--	104	--	228	--	<26.3	--
Basin D	1/15/2008	<24.7	<28.9	<24.7	<28.9	525	30.4	<24.7	<28.9	205	<28.9	239	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	254	5.3 J	613	13 J	41.7	<28.9
Basin D	1/26/2008	<26.1	<27.1	<26.1	<27.1	276	<27.1	<26.1	<27.1	125	<27.1	150	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	177	<9.05 *	364	17.2 J	27.8	<27.1
Basin L	3/24/2007	<24.6	--	<24.6	--	2,720	--	27.5	--	1,030	--	1,270	--	<24.6	--	<24.6	--	<24.6	--	1,370	--	3,030	--	230	--
Basin L	5/3/2007	<30.8	<27.3	<30.8	<27.3	2,670	212	<30.8	<27.3	1,140	<73.4 I	1,370	111	<30.8	<27.3	<30.8	<27.3	<30.8	<27.3	1,520	<69.0 I	3,450	227	270	<27.3
Basin L	5/20/2007	<27.6	--	45.30	--	4,490	--	84.6	--	2,090	--	2,510	--	<27.6	--	35.20	--	<27.6	--	2,970	--	5,820	--	432	--
Basin L	9/28/2007	<24.8	--	<24.8	--	2,410	--	35.5	--	1,400	--	1,640	--	<24.8	--	<24.8	--	<24.8	--	2,240	--	5,030	--	252	--
Basin M	3/24/2007	<25.2	--	<25.2	--	3,030	--	<25.2	--	1,040	--	1,410	--	<25.2	--	<25.2	--	<25.2	--	1,120	--	2,840	--	183	--
Basin M	4/7/2007	<25.0	--	50.3	--	25,500	--	62.8	--	11,400	--	11,400	--	<25.0	--	60.3	--	<25.0	--	13,700	--	39,500	--	2,110	--
Basin M	5/3/2007	<24.8	--	<24.8	--	8,790	--	<24.8	--	4,060	--	4,310	--	<24.8	--	<24.8	--	<24.8	--	5,000	--	15,800	--	848	--
Basin M	9/28/2007	<24.8	--	<24.8	--	1,010	--	<24.8	--	487	--	697	--	<24.8	--	<24.8	--	<24.8	--	819	--	1,850	--	104	--
Basin Q	3/24/2007	<24.6	--	<24.6	--	2,640	--	35.7	--	1,000	--	1,230	--	<24.6	--	<24.6	--	<24.6	--	1,310	--	2,930	--	202	--
Basin Q	4/7/2007	<24.7	--	<24.7	--	1,020	--	<24.7	--	417	--	475	--	<24.7	--	<24.7	--	<24.7	--	503	--	1,120	--	80.7	--
Basin Q	9/28/2007	<25.1	<25.1	<25.1	<25.1	896	60.2	<25.1	<25.1	378	34.6	450	35.9	<25.1	<25.1	<25.1	<25.1	<25.1	<25.1	551	45.1	1,090	81.9	81.6	<25.1
Basin R	3/24/2007	<29.8	--	<29.8	--	513	--	<29.8	--	241	--	273	--	<29.8	--	<29.8	--	<29.8	--	354	--	738	--	48.5	--
Basin R	4/7/2007	<24.7	--	<24.7	--	1,590	--	27.5	--	665	--	787	--	<24.7	--	<24.7	--	<24.7	--	986	--	1,940	--	134	--
Basin R	5/3/2007	<25.9	<24.5	286.00	<24.5	43,000	161	518	<24.5	18,400	73	20,900	83	120	<24.5	251	<24.5	<25.9	<24.5	29,000	87	59,200	185	4,130	<24.5
Basin R	11/16/2007	<25	--	<25	--	625	--	<25	--	283	--	331	--	<25	--	<25	--	<25	--	459	--	961	--	60.4	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	PCB-108/112		PCB-110		PCB-111/115		PCB-113		PCB-114		PCB-119		PCB-120		PCB-121		PCB-122		PCB-123		PCB-124		PCB-126	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	<25	<24.8	320	84.4	<25	<24.8	<25	<24.8	<7.52 *	<5.13 *	<25	<24.8	<25	<24.8	<25	<24.8	<25	<24.8	4.3 J	<3.11 *	<25	<24.8	<4.46 *	<5.76 *
Basin D - DUP	11/16/2007	<26.3	--	312	--	<26.3	--	<26.3	--	7.58 J	--	<26.3	--	<26.3	--	<26.3	--	<26.3	--	<7.61 *	--	<26.3	--	<6.83 *	--
Basin D	1/15/2008	28.8	<28.9	820	<28.9	<24.7	<28.9	<24.7	<28.9	17.5 J	<3.37*	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	13.2 J	<2.78*	30.3	<28.9	6.91 J	<3.62*
Basin D	1/26/2008	<26.1	<27.1	470	30.4	<26.1	<27.1	<26.1	<27.1	7.87 J	<6.64 *	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	9.61 J	<9.05 *	<26.1	<27.1	<8.26*	<7.99 *
Basin L	3/24/2007	161	--	4,420	--	70.7	--	<24.6	--	79.5	--	51.6	--	<24.6	--	<24.6	--	51	--	66.7	--	147	--	41.6	--
Basin L	5/3/2007	172	<27.3	4,660	296	72	<27.3	<30.8	<27.3	90.3	6.52 J	57.6	<27.3	<30.8	<27.3	<30.8	<27.3	41.3	<27.3	71.8	<4.51 *	175	<27.3	51.7	<5.20 *
Basin L	5/20/2007	334	--	7,590	--	175	--	<27.6	--	199	--	106	--	<27.6	--	<27.6	--	111	--	133	--	276	--	81.2	--
Basin L	9/28/2007	192	--	5,560	--	251	--	<24.8	--	112	--	59.1	--	<24.8	--	<24.8	--	102	--	64.5	--	215	--	59.9	--
Basin M	3/24/2007	163	--	5,450	--	71.2	--	<25.2	--	47.2	--	61.2	--	<25.2	--	<25.2	--	42.9	--	73.2	--	160	--	21.8 J	--
Basin M	4/7/2007	1,510	--	53,000	--	693	--	<25.0	--	820	--	356	--	60.8	--	<25.0	--	297	--	394	--	1,520	--	135	--
Basin M	5/3/2007	525	--	19,400	--	273	--	<24.8	--	311	--	142	--	<24.8	--	<24.8	--	129	--	180	--	625	--	50.7	--
Basin M	9/28/2007	64	--	2,330	--	30.5	--	<24.8	--	41.5	--	28.9	--	<24.8	--	<24.8	--	34.7	--	38.5	--	79.5	--	23.2 J	--
Basin Q	3/24/2007	145	--	4,070	--	70.3	--	<24.6	--	72.6	--	45.6	--	<24.6	--	<24.6	--	46	--	50.6	--	128	--	25.7	--
Basin Q	4/7/2007	59.6	--	1,690	--	32.7	--	<24.7	--	32.9	--	<24.7	--	<24.7	--	<24.7	--	<24.7	--	19.6 J	--	60.8	--	15.2 J	--
Basin Q	9/28/2007	54.0	<25.1	1,580	136	<25.1	<25.1	<25.1	<25.1	31.4	<8.67 *	<25.1	<25.1	<25.1	<25.1	<25.1	<25.1	<25.1	<25.1	25.6	<10.8 *	52.1	<25.1	16.3 J	<4.46 *
Basin R	3/24/2007	33.5	--	957	--	<29.8	--	<29.8	--	20.3 J	--	<29.8	--	<29.8	--	<29.8	--	<29.8	--	17.8 J	--	31.0	--	<9.31 *	--
Basin R	4/7/2007	106	--	2,620	--	49.5	--	<24.7	--	56.2	--	34.1	--	<24.7	--	<24.7	--	34.9	--	39.5	--	91.1	--	33.7	--
Basin R	5/3/2007	2,700	<24.5	75,300	235.00	1,360	<24.5	179.00	<24.5	1,460	8.17 J	743	<24.5	<25.9	<24.5	<25.9	<24.5	875	<24.5	992	<4.27 *	2,570	<24.5	818	<4.59 *
Basin R	11/16/2007	44.8	--	1220	--	<25	--	<25	--	29	--	<25	--	<25	--	<25	--	<25	--	20.1 J	--	41.5	--	<12.9 *	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Please refer to notes at end of table.

Table 7
Storm Water Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-127		PCB-128/162		PCB-129		PCB-130		PCB-131		PCB-132/161		PCB-133/142		PCB-134/143		PCB-135		PCB-136		PCB-137		PCB-138/163/164	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	<25	<24.8	66.3	<24.8	<25	<24.8	<25	<24.8	<25	<24.8	118	30.1	<25	<24.8	<25	<24.8	47.3	<24.8	53.6	<24.8	<25	<24.8	491	125
Basin D - DUP	11/16/2007	<26.3	--	58.7	--	<26.3	--	<26.3	--	<26.3	--	119	--	<26.3	--	<26.3	--	53	--	54.4	--	<26.3	--	519	--
Basin D	1/15/2008	<24.7	<28.9	122	<28.9	39.1	<28.9	48	<28.9	<24.7	<28.9	184	<28.9	<24.7	<28.9	31.9	<28.9	67.7	<28.9	65.1	<28.9	38.5	<28.9	640	<28.9
Basin D	1/26/2008	<26.1	<27.1	73.5	<27.1	<26.1	<27.1	27.9	<27.1	<26.1	<27.1	105	<27.1	<26.1	<27.1	<26.1	<27.1	37.8	<27.1	36	<27.1	<26.1	<27.1	377	<27.1
Basin L	3/24/2007	<24.6	--	841	--	265	--	387	--	<24.6	--	1,740	--	141	--	277	--	648	--	685	--	225	--	6,740	--
Basin L	5/3/2007	<30.8	<27.3	849	46.4	285	<27.3	365	<27.3	<30.8	<27.3	1,550	<91.6 I	146	<27.3	269	<27.3	622	<27.3	580	<36.4 I	241	<27.3	6,110	350
Basin L	5/20/2007	<27.6	--	1,030	--	325	--	388	--	<27.6	--	1,780	--	164	--	277	--	657	--	624	--	313	--	6,510	--
Basin L	9/28/2007	<24.8	--	1,000	--	260	--	263	--	<24.8	--	1,470	--	131	--	230	--	455	--	395	--	366	--	4,870	--
Basin M	3/24/2007	<25.2	--	1,180	--	321	--	500	--	<25.2	--	2,320	--	186	--	357	--	903	--	921	--	297	--	8,580	--
Basin M	4/7/2007	<25.0	--	6,080	--	2,260	--	3,060	--	<25.0	--	15,000	--	1,440	--	3,220	--	5,480	--	5,950	--	2,240	--	42,500	--
Basin M	5/3/2007	<24.8	--	2,480	--	927	--	1,200	--	<24.8	--	5,370	--	519	--	1,040	--	1,850	--	1,840	--	924	--	18,500	--
Basin M	9/28/2007	<24.8	--	480	--	138	--	183	--	<24.8	--	661	--	62.1	--	106	--	236	--	194	--	152	--	2,610	--
Basin Q	3/24/2007	<24.6	--	702	--	243	--	299	--	<24.6	--	1,200	--	107	--	213	--	425	--	434	--	206	--	4,390	--
Basin Q	4/7/2007	<24.7	--	267	--	91.9	--	126	--	<24.7	--	451	--	45.1	--	83.9	--	167	--	174	--	85.9	--	1,670	--
Basin Q	9/28/2007	<25.1	<25.1	254	<25.1	87.1	<25.1	121	<25.1	<25.1	<25.1	375	32.9	43.6	<25.1	69.4	<25.1	135	<25.1	117	<25.1	88.3	<25.1	1,250	121
Basin R	3/24/2007	<29.8	--	177	--	61.3	--	65.3	--	<29.8	--	225	--	<29.8	--	39.3	--	80.8	--	72.2	--	52.6	--	884	--
Basin R	4/7/2007	<24.7	--	442	--	138	--	156	--	<24.7	--	631	--	58.7	--	115	--	183	--	<172 I	--	127	--	2,230	--
Basin R	5/3/2007	<25.9	<24.5	13,900	44.7	4,360	<24.5	4,550	<24.5	<25.9	<24.5	19,800	65.9	1760	<24.5	3,410	<24.5	5,820	25.8	5,850	26.0	4,050	<24.5	73,400	241.0
Basin R	11/16/2007	<25	--	210	--	56.1	--	76.8	--	<25	--	261	--	29.5	--	42.1	--	88	--	80.4	--	65.1	--	892	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	PCB-139/149		PCB-140		PCB-141		PCB-144		PCB-145		PCB-146/165		PCB-147		PCB-148		PCB-150		PCB-151		PCB-152		PCB-153	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	340	92.6	<25	<24.8	128	33	26.2	<24.8	<25	<24.8	50.2	<24.8	<25	<24.8	<25	<24.8	<25	<24.8	103	29.1	<25	<24.8	538	131
Basin D - DUP	11/16/2007	342	--	<26.3	--	125	--	<26.3	--	<26.3	--	55.2	--	<26.3	--	<26.3	--	<26.3	--	106	--	<26.3	--	533	--
Basin D	1/15/2008	412	<28.9	<24.7	<28.9	106	<28.9	<24.7	<28.9	<24.7	<28.9	71.9	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	88.4	<28.9	<24.7	<28.9	472	<28.9
Basin D	1/26/2008	277	<27.1	<26.1	<27.1	71.9	<27.1	<26.1	<27.1	<26.1	<27.1	42.7	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	60.7	<27.1	<26.1	<27.1	304	<27.1
Basin L	3/24/2007	4,730	--	29.7	--	1,400	--	314	--	<24.6	--	781	--	79.3	--	<24.6	--	<24.6	--	1,290	--	<24.6	--	5,910	--
Basin L	5/3/2007	4,190	284	<30.8	<27.3	1,240	<64.1 I	243	<27.3	<30.8	<27.3	708	47	<77.2 I	<27.3	<30.8	<27.3	<30.8	<27.3	1,060	87	<30.8	<27.3	5,080	354
Basin L	5/20/2007	4,400	--	34.9	--	1,240	--	242	--	<27.6	--	792	--	92.4	--	<27.6	--	<27.6	--	1,050	--	<27.6	--	5,280	--
Basin L	9/28/2007	2,540	--	<24.8	--	1,070	--	132	--	<24.8	--	577	--	59.7	--	<24.8	--	<24.8	--	675	--	<24.8	--	4,090	--
Basin M	3/24/2007	6,430	--	34.4	--	1,550	--	375	--	<25.2	--	1,010	--	120	--	<25.2	--	<25.2	--	1,680	--	<25.2	--	6,830	--
Basin M	4/7/2007	34,100	--	174	--	8,000	--	2,030	--	<25.0	--	5,410	--	1,050	--	<25.0	--	<25.0	--	7,680	--	28.5	--	36,200	--
Basin M	5/3/2007	11,900	--	58.8	--	3,410	--	768	--	<24.8	--	2,190	--	316	--	<24.8	--	<24.8	--	2,740	--	<24.8	--	15,000	--
Basin M	9/28/2007	1,420	--	<24.8	--	528	--	86.4	--	<24.8	--	293	--	33.9	--	<24.8	--	<24.8	--	354	--	<24.8	--	2,310	--
Basin Q	3/24/2007	3,010	--	<24.6	--	810	--	196	--	<24.6	--	487	--	71.3	--	<24.6	--	<24.6	--	706	--	<24.6	--	3,450	--
Basin Q	4/7/2007	1,150	--	<24.7	--	307	--	68.3	--	<24.7	--	207	--	36.3	--	<24.7	--	<24.7	--	293	--	<24.7	--	1,390	--
Basin Q	9/28/2007	746	66.8	<25.1	<25.1	239	<25.1	<33.1 I	<25.1	<25.1	<25.1	141	<25.1	27.1	<25.1	<25.1	<25.1	<25.1	<25.1	156	<25.1	<25.1	<25.1	1,020	96.6
Basin R	3/24/2007	503	--	<29.8	--	145	--	<29.8	--	<29.8	--	93.2	--	<29.8	--	<29.8	--	<29.8	--	106	--	<29.8	--	607	--
Basin R	4/7/2007	1,210	--	<24.7	--	349	--	58.7	--	<24.7	--	245	--	45.6	--	<24.7	--	<24.7	--	256	--	<24.7	--	1,500	--
Basin R	5/3/2007	37,800	163.0	319	<24.5	11,900	<24.5	2,280	<24.5	<25.9	<24.5	7,440	31.8	1,230	<24.5	35.3	<24.5	79.1	<24.5	8,140	41.9	65.0	<24.5	48,400	192.0
Basin R	11/16/2007	465	--	<25	--	180	--	25.8		<25		92.3		20.3 J		<25		<25		104		<25		637	
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Please refer to notes at end of table.

Table 7
Storm Water Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-154		PCB-155		PCB-156		PCB-157		PCB-158/160		PCB-159		PCB-166		PCB-167		PCB-168		PCB-169		PCB-170		PCB-171	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	<25	<24.8	<25	<24.8	<43.3 I	<15.7 *	8.95 J	<3.69 *	55.1	<24.8	<25	<24.8	<25	<24.8	18.7 J	<3.11 *	<25	<24.8	<2.76 *	<4.22 *	256	71.6	54.1	<24.8
Basin D - DUP	11/16/2007	<26.3	--	<26.3	--	47.1	--	7.84 J	--	61	--	<26.3	--	<26.3	--	19.8	--	<26.3	--	<1.91 *	--	269	--	56.7	--
Basin D	1/15/2008	<24.7	<28.9	<24.7	<28.9	81.6	<3.45 *	21.2 J	<3.34 *	87.2	<28.9	<24.7	<28.9	<24.7	<28.9	31.6	<3.3 *	<24.7	<28.9	3.29 J	<3.6*	109	<28.9	28.4	<28.9
Basin D	1/26/2008	<26.1	<27.1	<26.1	<27.1	44.4	3.38 J	10.8 J	<1.85 *	49.6	<27.1	<26.1	<27.1	<26.1	<27.1	18.6 J	<2.75 *	<26.1	<27.1	<2.01*	<2.88 *	101	<27.1	29	<27.1
Basin L	3/24/2007	42.6	--	<24.6	--	524	--	122	--	698	--	62	--	<24.6	--	244	--	<24.6	--	<6.88 *	--	1,990	--	524	--
Basin L	5/3/2007	<34.1 I	<27.3	<30.8	<27.3	515	25.9 J	126	<15.2 *	682	<27.3	61.5	<27.3	<30.8	<27.3	252	<16.2 *	<30.8	<27.3	<17.5 *	<9.47 *	1,670	89.4	437	29.2
Basin L	5/20/2007	50	--	<27.6	--	654	--	147	--	705	--	92.6	--	<27.6	--	272	--	<27.6	--	<6.39 *	--	1,670	--	439	--
Basin L	9/28/2007	31.6	--	<24.8	--	617	--	127	--	542	--	<24.8	--	<24.8	--	277	--	<24.8	--	<15.4 *	--	1,370	--	335	--
Basin M	3/24/2007	52.9	--	<25.2	--	539	--	145	--	882	--	86.5	--	<25.2	--	296	--	<25.2	--	<5.66 *	--	2,810	--	742	--
Basin M	4/7/2007	258	--	<25.0	--	3,060	--	547	--	5,320	--	155	--	187	--	1,250	--	109	--	<18.1 *	--	3,190	--	1,360	--
Basin M	5/3/2007	98.4	--	<24.8	--	1,270	--	268	--	2,240	--	83.8	--	69.0	--	576	--	<24.8	--	<6.80 *	--	2,070	--	710	--
Basin M	9/28/2007	<24.8	--	<24.8	--	286	--	71.1	--	338	--	<24.8	--	<24.8	--	130	--	<24.8	--	<5.66 *	--	776	--	184	--
Basin Q	3/24/2007	28.5	--	<24.6	--	433	--	96.5	--	498	--	31.7	--	<24.6	--	171	--	<24.6	--	<4.36 *	--	951	--	253	--
Basin Q	4/7/2007	<24.7	--	<24.7	--	164	--	37.6	--	204	--	<24.7	--	<24.7	--	76.0	--	<24.7	--	<7.13 *	--	341	--	90.9	--
Basin Q	9/28/2007	<25.1	<25.1	<25.1	<25.1	168	<14.8 *	43.7	<5.11 *	193	<25.1	<25.1	<25.1	<25.1	<25.1	59.8	7.96 J	<25.1	<25.1	<6.35 *	<4.01 *	244	28.1	<50.7 I	<25.1
Basin R	3/24/2007	<29.8	--	<29.8	--	104	--	23.8 J	--	113	--	<29.8	--	<29.8	--	41.9	--	<29.8	--	<9.13 *	--	161	--	43.7	--
Basin R	4/7/2007	<24.7	--	<24.7	--	250	--	68.5	--	263	--	<24.7	--	<24.7	--	94.6	--	<24.7	--	<4.05 *	--	397	--	99.0	--
Basin R	5/3/2007	460	<24.5	<25.9	<24.5	8,820	27.6	2,210	9.71 J	8,880	<24.5	439	<24.5	356	<24.5	3,270	<9.31 *	<25.9	<24.5	<22.8 *	<5.00 *	13,100	50.4	3,200	<24.5
Basin R	11/16/2007	<25	--	<25	--	130	--	33.4	--	119	--	<25	--	<25	--	42.3	--	<25	--	<4.88 *	--	188	--	<25	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	PCB-172		PCB-173		PCB-174		PCB-175		PCB-176		PCB-177		PCB-178		PCB-179		PCB-180		PCB-181		PCB-182/187		PCB-183	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																							
Basin D	11/16/2007	31.7	<24.8	<25	<24.8	232	58.5	<25	<24.8	<25	<24.8	138	29.2	36.7	<24.8	73.6	<24.8	569	159	<25	<24.8	231	62.8	135	34.7
Basin D - DUP	11/16/2007	35.9	--	<26.3	--	223	--	<26.3	--	<26.3	--	136	--	<38 I	--	74.1	--	568	--	<26.3	--	230	--	135	--
Basin D	1/15/2008	<24.7	<28.9	<24.7	<28.9	108	<28.9	<24.7	<28.9	<24.7	<28.9	54.4	<28.9	<24.7	<28.9	32.7	<28.9	226	<28.9	<24.7	<28.9	102	<28.9	58.0	<28.9
Basin D	1/26/2008	<26.1	<27.1	<26.1	<27.1	100	<27.1	<26.1	<27.1	<26.1	<27.1	51.9	<27.1	<26.1	<27.1	37.4	<27.1	252	<27.1	<26.1	<27.1	113	<27.1	55.7	<27.1
Basin L	3/24/2007	345	--	53.1	--	2,200	--	107	--	250	--	1,180	--	411	--	838	--	5,070	--	<24.6	--	2,550	--	1,220	--
Basin L	5/3/2007	314	<27.3	42.0	<27.3	1,740	110	<89.9 I	<27.3	206	<27.3	964	<27.3	<322 I	<27.3	647	46.2	4,100	228	<30.8	<27.3	2,130	131	956	61.6
Basin L	5/20/2007	295	--	39.1	--	1,770	--	108	--	190	--	981	--	313	--	624	--	4,310	--	<27.6	--	1,990	--	955	--
Basin L	9/28/2007	228	--	<24.8	--	1,360	--	<24.8	--	144	--	790	--	231	--	455	--	3,200	--	<24.8	--	1,460	--	720	--
Basin M	3/24/2007	446	--	65.3	--	2,840	--	131	--	321	--	1,640	--	506	--	1,060	--	6,540	--	<25.2	--	3,250	--	1,600	--
Basin M	4/7/2007	569	--	158	--	4,520	--	236	--	747	--	2,660	--	796	--	2140	--	7,330	--	93.2	--	4,500	--	2,440	--
Basin M	5/3/2007	376	--	<67.2 I	--	2,480	--	129	--	339	--	1,420	--	461	--	989	--	5,010	--	33.8	--	2,730	--	1,410	--
Basin M	9/28/2007	120	--	<24.8	--	750	--	<28.8 I	--	83.3	--	419	--	133	--	265	--	1,740	--	<24.8	--	878	--	456	--
Basin Q	3/24/2007	173	--	27.0	--	978	--	44.0	--	109	--	<24.6	--	191	--	379	--	2,340	--	<24.6	--	1,190	--	542	--
Basin Q	4/7/2007	57.1	--	<24.7	--	405	--	<24.7	--	47.5	--	206	--	66.7	--	145	--	852	--	<24.7	--	468	--	209	--
Basin Q	9/28/2007	<37.1 I	<25.1	<25.1	<25.1	217	<25.1	<25.1	<25.1	<25.1	<25.1	123	<25.1	<33.9 I	<25.1	73.6	<25.1	514	57.0	<25.1	<25.1	265	30.5	130	<25.1
Basin R	3/24/2007	<29.8	--	<29.8	--	157	--	<29.8	--	<29.8	--	87.8	--	33.0	--	60.7	--	384	--	<29.8	--	196	--	85	--
Basin R	4/7/2007	71.1	--	<24.7	--	399	--	<24.7	--	41.2	--	218	--	83.8	--	144	--	935	--	<24.7	--	500	--	189	--
Basin R	5/3/2007	2,300	<24.5	318	<24.5	12,700	59.4	602	<24.5	1,290	<24.5	6,880	32.9	2,380	<24.5	4,620	<24.5	31,900	118	103	<24.5	16,400	69.1	6,800	32.7
Basin R	11/16/2007	28.7		<25		165		<25		<25		93		31.8		56.5		392		<25		203		90.6	
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Please refer to notes at end of table.

Table 7
Storm Water Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-184		PCB-185		PCB-186		PCB-188		PCB-189		PCB-190		PCB-191		PCB-192		PCB-193		PCB-194	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																			
Basin D	11/16/2007	<25	<24.8	<25	<24.8	<25	<24.8	<25	<24.8	11.7 J,B	<2.05 *	52.6	<24.8	<25	<24.8	<25	<24.8	26.3	<24.8	112	32.6
Basin D - DUP	11/16/2007	<26.3	--	<26.3	--	<26.3	--	<26.3	--	9.87 J,B	--	48.4	--	<26.3	--	<26.3	--	<26.3	--	125	--
Basin D	1/15/2008	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	5.53 J,B	<1.79 *	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	56.2	<28.9
Basin D	1/26/2008	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	5.71 J	<1.1 *	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	54.9	<27.1
Basin L	3/24/2007	<24.6	--	228	--	<24.6	--	<24.6	--	73.5	--	390	--	85.4	--	<24.6	--	217	--	982	--
Basin L	5/3/2007	<30.8	<27.3	<30.8	<27.3	<30.8	<27.3	<30.8	<27.3	69.4	<2.60 *	341	<27.3	81.6	<27.3	<30.8	<27.3	169	<27.3	813	55.0
Basin L	5/20/2007	<27.6	--	179	--	<27.6	--	<27.6	--	63.0	--	300	--	70.5	--	<27.6	--	184	--	958	--
Basin L	9/28/2007	<24.8	--	150	--	<24.8	--	<24.8	--	48.3	--	214	--	49	--	<24.8	--	124	--	785	--
Basin M	3/24/2007	<25.2	--	284	--	<25.2	--	<25.2	--	104	--	511	--	119	--	<25.2	--	275	--	1,250	--
Basin M	4/7/2007	<25.0	--	439	--	<25.0	--	<25.0	--	82.1	--	608	--	145	--	<25.0	--	330	--	760	--
Basin M	5/3/2007	<24.8	--	252	--	<24.8	--	<24.8	--	78.0	--	411	--	99.7	--	<24.8	--	215	--	721	--
Basin M	9/28/2007	<24.8	--	70.3	--	<24.8	--	<24.8	--	30.1	--	149	--	33.3	--	<24.8	--	88.9	--	400	--
Basin Q	3/24/2007	<24.6	--	105	--	<24.6	--	<24.6	--	<20.5 *	--	188	--	<24.6	--	<24.6	--	104	--	598	--
Basin Q	4/7/2007	<24.7	--	39.3	--	<24.7	--	<24.7	--	13.1 J	--	69.9	--	<24.7	--	<24.7	--	<24.7	--	207	--
Basin Q	9/28/2007	<25.1	<25.1	<25.1	<25.1	<25.1	<25.1	<25.1	<25.1	11 J	<1.22 *	<47.9 I	<25.1	<25.1	<25.1	<25.1	<25.1	<25.1	<25.1	148	<25.1
Basin R	3/24/2007	<29.8	--	<29.8	--	<29.8	--	<29.8	--	<5.53 *	--	31.4	--	<29.8	--	<29.8	--	<29.8	--	120	--
Basin R	4/7/2007	<24.7	--	42.9	--	<24.7	--	<24.7	--	<14.9	--	83.2	--	<24.7	--	<24.7	--	39.4	--	294	--
Basin R	5/3/2007	<25.9	<24.5	1,350	<24.5	<25.9	<24.5	61.6	<24.5	616	<0.830 *	2,700	<24.5	508	<24.5	<25.9	<24.5	1,290	<24.5	9,920	38.3
Basin R	11/16/2007	<25.0	--	<25.0	--	<25.0	--	<25.0	--	9.79 J, B	--	34	--	<25.0	--	<25.0	--	<25.0	--	132	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	PCB-195		PCB-196/203		PCB-197		PCB-198		PCB-199		PCB-200		PCB-201		PCB-202		PCB-204		PCB-205	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																			
Basin D	11/16/2007	56.8	<24.8	115	<28.3 I	<25	<24.8	<25	<24.8	114	27.9	<25	<24.8	<25	<24.8	<25	<24.8	<25	<24.8	<25	<24.8
Basin D - DUP	11/16/2007	55.8	--	123	--	<26.3	--	<26.3	--	110	--	<26.3	--	<26.3	--	<26.3	--	<26.3	--	<26.3	--
Basin D	1/15/2008	<24.7	<28.9	69.5	<28.9	<24.7	<28.9	<24.7	<28.9	65	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9
Basin D	1/26/2008	<26.1	<27.1	75.6	<27.1	<26.1	<27.1	<26.1	<27.1	71.4	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1
Basin L	3/24/2007	402	--	1,400	--	40.0	--	58.2	--	1,250	--	138	--	135	--	202	--	<24.6	--	48.5	--
Basin L	5/3/2007	301	<27.3	1,020	<27.3	<30.8	<27.3	56.2	<27.3	915	<27.3	104	<27.3	114	<27.3	165	<27.3	<30.8	<27.3	38.5	<27.3
Basin L	5/20/2007	398	--	1,270	--	41.4	--	71.1	--	1,160	--	132	--	141	--	204	--	<27.6	--	40.9	--
Basin L	9/28/2007	341	--	730	--	28.7	--	<24.8	--	846	--	95.5	--	107	--	134	--	<24.8	--	34	--
Basin M	3/24/2007	558	--	1,770	--	53.3	--	68.3	--	1,500	--	178	--	168	--	240	--	<25.2	--	65.5	--
Basin M	4/7/2007	381	--	1,080	--	46.2	--	50.3	--	940	--	137	--	142	--	205	--	<25.0	--	34.3	--
Basin M	5/3/2007	308	--	950	--	35.9	--	<198 I	--	806	--	101	--	100	--	149	--	<24.8	--	44.2	--
Basin M	9/28/2007	178	--	485	--	<24.8	--	<24.8	--	477	--	52.6	--	53.3	--	67.7	--	<24.8	--	<24.8	--
Basin Q	3/24/2007	204	--	874	--	26.7	--	41.7	--	805	--	82.9	--	88.7	--	144	--	<24.6	--	<24.6	--
Basin Q	4/7/2007	70.9	--	308	--	<24.7	--	<24.7	--	276	--	29.8	--	26.6	--	53.5	--	<24.7	--	<24.7	--
Basin Q	9/28/2007	41.5	<25.1	183	<25.1	<25.1	<25.1	<25.1	<25.1	180	26.2	<25.1	<25.1	<25.1	<25.1	28.8	<25.1	<25.1	<25.1	<25.1	<25.1
Basin R	3/24/2007	41.2	--	193	--	<29.8	--	<29.8	--	178	--	<29.8	--	<29.8	--	31.5	--	<29.8	--	<29.8	--
Basin R	4/7/2007	90.7	--	451	--	<24.7	--	<24.7	--	445	--	37.6	--	43.1	--	99.4	--	<24.7	--	<24.7	--
Basin R	5/3/2007	3290	<24.5	12,200	59.3	299	<24.5	543	<24.5	12,400	57.3	1,250	<24.5	1,280	<24.5	2,260	<24.5	<25.9	<24.5	412	<24.5
Basin R	11/16/2007	41.4		157		<25		<25		168		<25		<25		27.4		<25		<25	
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Please refer to notes at end of table.

Table 7
Storm Water Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-206		PCB-207		PCB-208		PCB-209		Total monoCB		Total diCB		Total triCB		Total tetraCB		Total pentaCB		Total hexaCB		Total heptaCB	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)																					
Basin D	11/16/2007	32.7	<24.8	<25	<24.8	<25	<24.8	<25	<24.8	<25	<24.8	332	117	1,210	354	1,530 B	357 B	1,430	258	2,040	441	1,850 B	417 B
Basin D - DUP	11/16/2007	<26.3	--	<26.3	--	<26.3	--	<26.3	--	<26.3	--	309	--	1,120	--	1,440 B	--	1,420	--	2,100	--	1,790 B	--
Basin D	1/15/2008	30.8	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	<24.7	<28.9	611	<57.9	2,500	225	3,970	266	4,300	78.9	2,610	<28.9	723 B	<28.9
Basin D	1/26/2008	30.7	<27.1	<26.1	<27.1	<26.1	<27.1	<26.1	<27.1	26.4	<27.1	795	188	2,690	584	3730 B	384 B	2,480	47.6	1,540	3.38	746	<27.1
Basin L	3/24/2007	369	--	44.6	--	77.9	--	47.3	--	102	--	4,230	--	12,700	--	21,200	--	22,800	--	28,200	--	17,700	--
Basin L	5/3/2007	332	<27.3	45.7	<27.3	72.0	<27.3	59.1	<27.3	91.3	146	2,490 I	2,260	12,700	2,810	21,400 I	2,750 B I	24,300	1,410 I	25,200 I	1,190 I	13,900 I	696
Basin L	5/20/2007	503	--	57.7	--	110	--	83.3	--	223 B	--	8,600	--	54,400	--	78,700 B I	--	42,300	--	27,100	--	14,500	--
Basin L	9/28/2007	417	--	45.2	--	94.2	--	83.7	--	198	--	4,600	--	23,800	--	43,200	--	28,400	--	20,200	--	10,900	--
Basin M	3/24/2007	679	--	66.7	--	165	--	303	--	<25.2	--	2,150	--	3,380	--	7,480	--	23,900	--	35,600	--	23,200	--
Basin M	4/7/2007	307	--	35.8	--	76.4	--	99.8	--	79.9 B J3	--	892	--	1,090	--	22,900	--	251,000	--	193,000	--	32,300	--
Basin M	5/3/2007	267	--	31.1	--	<53.4 I	--	67.4	--	68.3	--	796 I	--	1,530	--	11,100 I	--	91,800	--	75,700	--	19,200 I	--
Basin M	9/28/2007	219	--	<24.8	--	47.4	--	50.1	--	84.9	--	1,790	--	4,640	--	7,680	--	11,000	--	10,700	--	6,180	--
Basin Q	3/24/2007	479	--	70.6	--	107	--	377	--	147	--	3,630	--	16,200	--	24,300	--	21,600	--	18,200	--	7,570	--
Basin Q	4/7/2007	156	--	<24.7	--	35.4	--	30.7	--	146 B	--	2,710	--	6,770	--	9,180	--	8,480	--	7,100	--	3,010	--
Basin Q	9/28/2007	97.9	<25.1	<25.1	<25.1	22.8 J	<25.1	<25.1	<25.1	56.2	<25.1	1,160	115	4,590	896	7,610	937	7,860	558	5,340	326	1,580	116
Basin R	3/24/2007	105	--	<29.8	--	<29.8	--	<29.8	--	273	--	3,590 I	--	7,740 I	--	6,660	--	4,880	--	3,390	--	1,240	--
Basin R	4/7/2007	332	--	34.9	--	92.6	--	53.4	--	283 B	--	3,860	--	12,300	--	19,100	--	14,000	--	8,410 I	--	3,240	--
Basin R	5/3/2007	13,200	43.5	1,310	<24.5	2,930	<24.5	2,830	<24.5	5,300	94.0	79,200	1,060	305,000	1,950	424,000	2,050 B	394,000	1,180	279,000	869	109,000	363
Basin R	11/16/2007	132	--	<25	--	29.1	--	45.5	--	2,620	--	4,890	--	7,570	--	8,000 B	--	6,100	--	3,650	--	1,290 B	--
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	Total octaCB		Total nonaCB		Total decaCB		Total PCB	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in pg/L (ppq)							
Basin D	11/16/2007	398	60.5	32.7	<24.8	<25	<24.8	8,830 B	2,000 B
Basin D - DUP	11/16/2007	413	--	<26.3	--	<26.3	--	8,590 B	--
Basin D	1/15/2008	191	<28.9	30.8	<28.9	<24.7	<28.9	14,900 B	569
Basin D	1/26/2008	202	<27.1	30.7	<27.1	<26.1	<27.1	12,200 B	1,210 B
Basin L	3/24/2007	4,650	--	491	--	47.3	--	112,000	--
Basin L	5/3/2007	3,530	55	450	<27.3	59.1	<27.3	104,000 I	11,300 B I
Basin L	5/20/2007	4,410	--	671	--	83.3	--	231,000 B	--
Basin L	9/28/2007	3,100	--	557	--	83.7	--	135,000	--
Basin M	3/24/2007	5,860	--	911	--	303	--	103,000	--
Basin M	4/7/2007	3,780	--	419	--	99.8	--	505,000 B	--
Basin M	5/3/2007	3,220 I	--	298 I	--	67.4	--	204,000 I	--
Basin M	9/28/2007	1,710	--	266	--	50.1	--	44,100	--
Basin Q	3/24/2007	2,870	--	656	--	377	--	95,600	--
Basin Q	4/7/2007	972	--	192	--	30.7	--	38,600 B	--
Basin Q	9/28/2007	581	26.2	121	<25.1	<25.1	<25.1	28,900	2970
Basin R	3/24/2007	564	--	105	--	<29.8	--	28,400 I	--
Basin R	4/7/2007	1,460	--	459	--	53.4	--	63,100 B I	--
Basin R	5/3/2007	43,900	155	17,500	43.5	2,830	<24.5	1,660,000	7,770 B
Basin R	11/16/2007	527		161		45.5		34,900 B	
Applicable JSCS Screening Level Value		NA	NA	NA	NA	NA	NA	64	64

Notes:
1. PCB Congeners by EPA Method 1668.
2. pg/L (ppq) = Picograms per liter (parts per quadrillion).
3. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision). (Screening level available only for total PCBs.)
4. **Bolded** values indicate detected concentrations.
5. B = The compound was also detected in the method blank.
6. J = The amount detected is below the lower calibration limit of the instrument.
7. I = Chemical interference.
8. * = Sample specific detection limit. Detection limits were calculated for non-detected toxic congeners.
9. J3 = The detected concentration of this analyte is equal to or less than 5 times the concentration detected in the method blank.
10. Shading indicates concentration exceeds applicable screening level value.

Table 8
Storm Water Analytical Results: Polynuclear Aromatic Hydrocarbons
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Naphthalene		2-Methylnaphthalene		Acenaphthylene		Acenaphthene		Dibenzofuran		Fluorene		Phenanthrene		Anthracene		Fluoranthene	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in µg/L (ppb)																	
Basin D	3/24/2007	0.031 J3	0.022 J3	0.010 J	0.0070 J	0.0042 J	0.0071 J	0.0089 J	0.0052 J	--	--	0.010 J	0.0072 J	0.081	0.023	0.012 J	0.0059 J	0.091	0.010 J
Basin D	4/7/2007	0.043	0.033	0.013 J	0.010 J	0.0053 J	0.0088 J	0.011 J	0.0081 J	--	--	0.013 J	0.011 J	0.078 J2	0.047	0.013 J	0.0078 J	0.091	0.038
Basin D	5/3/2007	0.016 J J3	0.019 J J3	<0.020	0.0081 J J3	<0.020	0.0031 J J3	0.0066 J J3	0.0059 J J3	0.0061 J J3	0.0051 J J3	0.0061 J J3	0.0061 J J3	0.039	0.042	0.0063 J J3	0.0063 J J2 J3	0.048	0.058
Basin D - Dup	5/3/2007	0.015 J J3	0.014 J J3	0.0069 J J3	0.0070 J J3	<0.020	<0.020	0.0068 J J3	0.0058 J J3	0.0064 J J3	0.0054 J J3	0.0069 J J3	0.0067 J J3	0.047	0.042	0.0059 J J3	0.0043 J J2 J3	0.048	0.044
Basin D	11/16/2007	0.027	--	<0.0024	--	<0.0036	--	<0.0046	--	--	--	<0.004	--	0.067	--	<0.0038	--	0.071	--
Basin L	3/24/2007	0.14	0.056	0.27	0.088	0.032	0.021	0.200	0.013 J	--	--	0.15	0.018 J	1.4	0.055	0.20	0.017 J	3.0	0.097
Basin L	5/3/2007	0.11	0.10	0.16	0.16	0.029	0.022 J3	0.18	0.13	0.11	0.09	0.16	0.13	1.6	1.3	0.18	0.11	2.8	2.0
Basin L	5/20/2007	0.085	0.032	0.039	0.015 J	0.013 J	0.0073 J	0.28	0.057	0.087	0.03	0.12	0.032	1.9	0.63	0.26	0.065	4.6	1.3
Basin L	9/28/2007	0.058	--	0.024	--	0.0088 J	--	0.062	--	--	--	0.034	--	0.73	--	0.062	--	1.5	--
Basin M	3/24/2007	0.059	0.031 J3	0.069	0.024	0.084	0.054	0.22	0.067	--	--	0.12	0.038	0.35	0.1	0.19	0.072	1.4	0.53
Basin M	4/7/2007	0.018 J	0.017 J	0.019 J	0.017 J	0.035	0.058	0.032	0.028	--	--	0.025	0.026	0.11 J2	0.1	0.091	0.10	0.27	0.28
Basin M	5/3/2007	0.017 J J3	0.016 J J3	0.0054 J J3	0.0063 J J3	0.027	0.022 J3	0.02 J3	0.022 J3	0.0083 J J3	0.0097 J J3	0.014 J J3	0.014 J J3	0.095	0.12	0.066	0.067	0.18	0.27
Basin M	9/28/2007	0.02 J3	--	0.0075 J	--	0.0066 J	--	0.024	--	--	--	0.013 J	--	0.085	--	0.059	--	0.19	--
Basin Q	3/24/2007	0.049	--	0.023	--	0.013 J	--	0.043	--	--	--	0.031	--	0.47	--	0.054	--	0.81	--
Basin Q - DUP	3/24/2007	0.043	--	0.021	--	0.013 J	--	0.038	--	--	--	0.029	--	0.43	--	0.052	--	0.8	--
Basin Q	4/7/2007	0.027	0.028	0.011 J	0.014 J	0.0053 J	0.0080 J	0.02	0.019 J	--	--	0.018 J	0.019 J	0.12 J2	0.13	0.020 J	0.022	0.18	0.23
Basin Q	9/28/2007	0.022	0.019 J J3	0.0091 J	0.0073 J	0.0043 J	0.0035 J	0.011 J	0.0079 J	--	--	0.010 J	0.0083 J	0.062	0.026	0.046	0.042	0.11	0.044
Basin R	3/24/2007	0.04 J3	0.025 J3	0.014 J	0.013 J	<0.027	0.027	0.0099 J	<0.024	--	--	0.010 J	0.0052 J	0.055	0.016 J	0.0057 J	<0.024	0.042	0.018 J
Basin R	4/7/2007	0.039	0.039	0.022	0.028	<0.020	<0.020	0.012 J	0.010 J	--	--	0.012 J	0.012 J	0.15 J2	0.13	0.012 J	<0.020	0.062	0.033
Basin R	5/3/2007	0.25	0.15	0.076	0.048	0.025	0.0062 J J3	0.068	0.020 J J3	0.049	0.014 J J3	0.053	0.016 J J3	0.66	0.12	0.095	0.016 J J3	0.78	0.13
Basin R	11/16/2007	0.027	--	<0.0024	--	<0.0036	--	<0.0046	--	--	--	<0.004	--	0.089	--	<0.0038	--	0.096 J2	--
Basin R - DUP	11/16/2007	0.024	--	<0.0024	--	<0.0036	--	<0.0046	--	--	--	<0.004	--	0.076	--	<0.0038	--	0.063 J2	--
Applicable JSCS Screening Level Value		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	NA	NA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Please refer to notes at end of table.

Table 8
Storm Water Analytical Results: Polynuclear Aromatic Hydrocarbons
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Pyrene		Benz(a)anthracene		Chrysene		Benzo(b)fluoranthene		Benzo(k)fluoranthene		Benzo(a)pyrene		Indeno(1,2,3-cd)pyrene		Dibenz(a,h)anthracene		Benzo(g,h,i)perylene	
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
		Concentrations in µg/L (ppb)																	
Basin D	3/24/2007	0.082	0.0065 J	0.040	0.0047 J	0.073	<0.020	0.086	<0.020	0.03	<0.020	0.052	<0.020	0.057	<0.020	0.013 J	<0.020	0.063	<0.020
Basin D	4/7/2007	0.081	0.032	0.067	0.019 J	0.092	0.029	0.11	0.03	0.058	0.012 J	0.054	0.018 J	0.089	0.020	0.041	0.0070 J	0.082	0.024
Basin D	5/3/2007	0.037	0.049	0.019 J J3	0.022 J2 J3	0.021	0.024	0.028	0.045 J2	0.012 J	0.014 J J2	0.019 J J3 J6	0.03 J2 J6	0.027 J3	0.037 J2	0.0094 J J3 J2	0.0092 J J2 J3	0.028 J3	0.041 J2
Basin D - Dup	5/3/2007	0.037	0.040	0.017 J J3	0.015 J J2 J3	0.020	0.019 J	0.030	0.029 J2	0.011 J	0.0092 J J2	0.021 J3 J6	0.018 J J2 J3 J6	0.020 J3	0.017 J J2 J3	0.0050 J J3 J2	0.0042 J J2 J3	0.023 J3	0.020 J2 J3
Basin D	11/16/2007	0.052	--	<0.0028	--	0.040	--	0.054	--	<0.0027	--	0.023	--	0.03	--	<0.0027	--	0.033	--
Basin L	3/24/2007	2.7	0.08	1.6	0.048	2.5	0.087	3.4	0.11	1.2	0.04	2.2	0.05	2.7	0.063	0.54	0.014 J	2.5	0.069
Basin L	5/3/2007	2.4	1.6	1.3	0.80	1.7	1.1	3.0	2.0	0.98	0.65	2.0 J6	1.3 J6	2.5	1.7	0.56	0.36	2.5	1.7
Basin L	5/20/2007	3.9	1.1	2.7	0.58	3.8	1.1	5.5	1.4	1.9	0.5	3.7	0.86	3.8	0.93	0.84	0.18	3.5	0.91
Basin L	9/28/2007	1.0	--	0.57	--	1.0	--	1.5	--	0.44	--	0.87	--	0.97	--	0.21	--	0.87	--
Basin M	3/24/2007	1.2	0.41	0.5	0.2	0.46	0.17	0.57	0.25	0.18	0.079	0.36	0.15	0.3	0.12	0.068	0.024	0.32	0.12
Basin M	4/7/2007	0.25	0.25	0.15	0.17	0.13	0.13	0.28	0.39	0.092	0.12	0.19	0.27	0.18	0.31	0.038	0.061	0.20	0.33
Basin M	5/3/2007	0.16	0.25	0.096	0.14	0.091	0.15	0.20	0.30	0.066	0.10	0.15 J6	0.23 J6	0.19	0.26	0.041	0.058	0.23	0.29
Basin M	9/28/2007	0.14	--	0.062	--	0.077	--	0.12	--	0.037	--	0.072	--	0.08	--	0.018 J	--	0.071	--
Basin Q	3/24/2007	0.83	--	0.29	--	0.61	--	0.63	--	0.24	--	0.39	--	0.47	--	0.094	--	0.48	--
Basin Q - DUP	3/24/2007	0.81	--	0.31	--	0.61	--	0.68	--	0.26	--	0.42	--	0.50	--	0.097	--	0.50	--
Basin Q	4/7/2007	0.16	0.20	0.069	0.089	0.12	0.16	0.12	0.17	0.044	0.061	0.078	0.11	0.083	0.12	0.018 J	0.026	0.083	0.12
Basin Q	9/28/2007	0.083	0.03	0.033	0.014 J J3	0.062	0.026	0.08	0.028	0.023	0.0084 J J3	0.044	0.016 J	0.053	0.02	0.012 J	0.0049 J	0.051	0.018 J J3
Basin R	3/24/2007	0.021 J	0.011 J	0.011 J	0.0062 J	0.016 J	<0.024	0.012 J	0.0075 J	<0.027	<0.024	0.0077 J	<0.024	0.0059 J	0.0042 J	<0.027	<0.024	0.0063 J	<0.024
Basin R	4/7/2007	0.049	0.025	0.018 J	0.011 J	0.043	0.022	0.037	0.015 J	0.013 J	0.0060 J	0.017 J	0.0070 J	0.032	0.0089 J	0.0080 J	<0.020	0.032	0.0089 J
Basin R	5/3/2007	0.60	0.098	0.29	0.044	0.63	0.085	0.56	0.080	0.18	0.025	0.37 J6	0.050 J6	0.43	0.059	0.11	0.014 J J3	0.42	0.060
Basin R	11/16/2007	0.065 J2	--	0.031	--	0.049 J2	--	0.061 J2	--	0.025	--	0.033	--	0.033	--	<0.0026	--	0.036	--
Basin R - DUP	11/16/2007	0.041 J2	--	<0.0027	--	0.029 J2	--	0.031 J2	--	<0.0026	--	<0.0045	--	<0.0027	--	<0.0026	--	<0.003	--
Applicable JSCS Screening Level Value		0.2	0.2	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.2	0.2

Notes:

1. Polynuclear Aromatic Hydrocarbons by EPA Method 8270 C SIM.
2. µg/L (ppb) = Micrograms per liter (parts per billion).
3. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision).
4. Bolded values indicate detected concentrations.
5. J = The result is an estimated concentration that is below the Method Reporting Limit (MRL) and above the Method Detection Limit (MDL).
6. J2 = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. The precision goal of 30% was exceeded for this analyte by the results of the field duplicate sample or the lab duplicate.
7. J3 = The detected concentration of this analyte is equal to or less than 5 times the concentration detected in the method blank.
8. J6 = The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recovery for this analyte exceeded the control criteria.
9. Shading indicates concentration exceeds applicable screening level value.

Table 9
Storm Water Analytical Results: General Chemistry Parameters
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Dissolved Organic Carbon	Total Organic Carbon	TSS	Turbidity
		Concentrations in mg/L (ppm)			NTU
Basin D	3/24/2007	1.7	2.2	14	6.4 J1
Basin D	4/7/2007	5.2	5.8	6	4.8 J1
Basin D	5/3/2007	10	10	19	10.6
Basin D	11/16/2007	2.8	3.2	6	5.6
Basin L	3/24/2007	3.0	4.5	108	68.8 J1
Basin L	5/3/2007	24.3	19.5	207	97.5
Basin L	5/20/2007	18	22	309	120
Basin L	9/28/2007	13.5	14.3	80	78.0
Basin M	3/24/2007	4.7	4.8	117	263 J1
Basin M	4/7/2007	9.7	11.5	35	61 J1
Basin M	5/3/2007	16.6	18.3	66	53.4
Basin M	9/28/2007	13.0	13.8	39	46.2
Basin Q	3/24/2007	2.6	3.5	89	31.4 J1
Basin Q	4/7/2007	6.8	7.6	15	11 J
Basin Q	9/28/2007	8.1	9.1	572	18.5
Basin R	3/24/2007	35.5	48.3	50	14.3 J1
Basin R	4/7/2007	136	166	90	55.4 J1
Basin R	5/3/2007	44.9	54.6	2,300	129
Basin R	11/16/2007	4.5	5.3	15	4.9

Notes:

1. Dissolved and Total Organic Carbon by EPA method 415.1 or SM 5310 C.
2. Total Suspended Solids (TSS) by EPA Method 160.2 or SM 2540D.
3. Turbidity by EPA Method 180.1.
4. mg/L (ppm) = Milligrams per liter (parts per million).
5. NTU = Nephelometric Turbidity Units.
6. J1 = Hold time was exceeded for this analysis, the resulting value is estimated.

Table 10
Storm Water Solids Analytical Results: Metals
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Aluminum	Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
		Concentrations in mg/kg (ppm)											
Basin D	1/22/2007 - 6/27/2007 9/20/2007 - 2/15/2008	5,610	1.45	3.39	1.37	160	65.8	713	0.078	28.2	<1.48	0.272	517
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	10,100	17.1	3.91	4.00	33.5	73.1	190	0.094	28.6	<1.32	0.633	1,810
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	10,800	0.96	3.53	1.39	24.2	42.8	140	0.090	16.0	<1.21	0.450	319
Applicable Screening Level Value		NA	64	7.0	1.0	111	149	17	0.07	48.6	2.0	5.0	459

Notes:
1. Metals analysis by EPA Method 6020. Aluminum analysis by EPA Method 6010. Mercury analysis by EPA Method 7470A.
2. mg/kg (ppm) = Milligrams per kilogram (parts per million).
3. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision).
4. Bolded values indicate detected concentrations.
5. Shading indicates concentration exceeds applicable screening value.

Table 11
Storm Water Solids Analytical Results: Oil and Grease/Total Petroleum Hydrocarbons
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	O&G	O&G with silica gel cleanup	TPHd	TPHr
		EPA Method 1664		EPA Method 8015 with silica gel cleanup	
		Concentrations in mg/kg (ppm)			
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	52,000	29,600	1,400 H	11,000 O
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	8,960	4,210	110 H	1,100 O

Notes:
1. Oil and Grease (O&G) by EPA method 1664; Total Petroleleum Hydrocarbons (TPH) using EPA Method 8015M.
2. mg/kg (ppm) = Milligrams per kilogram (parts per million).
3. Bolded values indicate detected concentrations.
4. H = The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
5. O = The chromatographic fingerprint resembles an oil, but does not match the calibration standard.

Table 12
Storm Water Solids Analytical Results: Phthalates
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Dimethyl Phthalate	Diethyl Phthalate	Di-n-Butyl Phthalate	Butyl Benzyl Phthalate	Bis(2-ethylhexyl) Phthalate	Di-n-octyl Phthalate
		Concentrations in µg/kg (ppb)					
Basin D	1/22/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<1,200	<1,200	<2,400	830 J	17,000	<1,200
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<2,200	<2,200	<4,400	2,200	48,000	<2,200
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<200	<200	<400	280	960 J	<200
Applicable Screening Level Value		NA	600	60	NA	330	NA

Notes:
1. Phthalates by EPA Method 8270C.
2. µg/kg (ppb) = Micrograms per kilogram (parts per billion).
3. J = The result is an estimated concentration that is below the Method Reporting Limit (MRL) and above the Method Detection Limit (MDL).
4. Bolded values indicate detected concentrations.
5. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision).
6. Shading indicates concentration exceeds applicable screening value

Table 13
Storm Water Solids Analytical Results: Organochlorine Pesticides
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	alpha-BHC	Hexachlorobenzene	beta-BHC	gamma-BHC (Lindane)	delta-BHC	Heptachlor	Aldrin	Heptachlor Epoxide	gamma-Chlordane	Endosulfan I	alpha-Chlordane	Dieldrin	4,4'-DDE	Endrin	Endosulfan II	4,4'-DDD	Endrin Aldehyde
		Concentrations in µg/kg (ppb)																
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<20	<20i	27	<20	<20i	<20i	<20i	22	<20i	<20i	<20i	<20	6.7 JP	<20	<20i	<20i	<20i
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<20	<20	<20	<20i	<20	<20i	<20	7.5 J	<20i	<20	<20	<20	6.9 JP	<20	<20	4.5 JP	<20i
Applicable Screening Level Value		NA	19	NA	4.99	NA	10	40	16	NA	NA	NA	0.0081	0.33	207	NA	0.33	NA

Monitoring Location	Date Sampled	Endosulfan Sulfate	4,4'-DDT	Endrin Ketone	Methoxychlor	Toxaphene	Oxychlordane	2,4'-DDE	cis-Nonachlor	2,4'-DDD	trans-Nonachlor	2,4'-DDT	Mirex	Hexachloroethane	Hexachlorobutadiene
		Concentrations in µg/kg (ppb)													
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<20i	<32i	<20i	<20i	<1,100i	<20i	33	<20	36	<20i	<20i	<20i	<20	<20
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<20	37 P	<20i	<20	<980 i	1.3 JP	<20	<20i	<20i	<20	14 J	<20	<20	<20
Applicable Screening Level Value		NA	0.33	NA	NA	NA	NA	0.33	NA	0.33	NA	0.33	NA	NA	600

Notes:
1. Organochlorine Pesticides by EPA Method 8081A.
2. µg/kg (ppb) = Micrograms per kilogram (parts per billion).
3. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision).
4. Bolded values indicate detected concentrations.
5. P = The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 25% between the two analytical results.
6. J = The result is an estimated concentration that is below the Method Reporting Limit (MRL) and above the Method Detection Limit (MDL).
7. i = The MRL/MDL has been increased due to chromatographic interference.
8. Shading indicates concentration exceeds applicable screening value.

Table 14
Storm Water Solids Analytical Results: Polychlorinated Biphenyl Aroclors
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268
		Concentrations in µg/kg (ppb)								
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<200	<400	<200	400	<200	360	210	<200	<200
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<200	<390	<200	74 J	<200	160 J	160 J	<200	<200
Applicable Screening Level Value		530	NA	NA	NA	1,500	300	200	NA	NA

Notes:
1. PCB Aroclors by EPA Method 8082.
2. µg/kg (ppb) = Micrograms per kilogram (parts per billion).
3. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision).
4. Bolded values indicate detected concentrations.
5. J = The result is an estimated concentration that is below the Method Reporting Limit (MRL) and above the Method Detection Limit (MDL).
6. Shading indicates concentration exceeds applicable screening value

Table 15
Storm Water Solids Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-1	PCB-2	PCB-3	PCB-4/10	PCB-5/8	PCB-6	PCB-7/9	PCB-11	PCB-12/13	PCB-14	PCB-15	PCB-16/32	PCB-17	PCB-18	PCB-19	PCB-20/21/33	PCB-22	PCB-23	PCB-24/27	PCB-25	PCB-26	PCB-28	PCB-29	PCB-30
		Analyte concentrations in ng/kg (ppt)																							
Basin D	1/22/2007 - 6/27/2007 9/20/2007 - 2/15/2008	194	67.6	177	1,000	3,240	669	300	3,120	381	<43.3	3,160	4,220	2210	5,560	539	5,690	3,870	12.5 J	528	897	1,510	9,030	65.5	<21.7
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	578	218	454	2,540	9,010	2,050	922	1,890	1,170	<171	8,540	12,500	6,800	15,900	1,410	15,800	12,800	28 J	1,530	2,380	4,150	27,500	222	<85.6
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	169	69.4	164	665	2,190	461	203	589	301	<32.4	2,340	1,850	985	2,600	317	2,720	1,750	5.49 J	243	377	679	4,030	33.7	<16.2
Basin R	1/23/2007 - 6/27/2007 10/05/2007 - 2/15/2008	2,050	731	1,840	9,500	30,700	6,550	3,010	2,380	3,820	<89.2	26,900	24,500	14,200	35,300	3,690	35,500	22,500	52.2	2,940	5,040	9,260	51,100	452	19.1 J
Applicable Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	PCB-31	PCB-34	PCB-35	PCB-36	PCB-37	PCB-38	PCB-39	PCB-40	PCB-41/64/71/	PCB-42/59	PCB-43/49	PCB-44	PCB-45	PCB-46	PCB-47	PCB-48/75	PCB-50	PCB-51	PCB-52/69	PCB-53	PCB-54	PCB-55	PCB-56/60	PCB-57
		Analyte concentrations in ng/kg (ppt)																							
Basin D	1/22/2007 - 6/27/2007 9/20/2007 - 2/15/2008	6,870	27.8	317	8.73 J	4,850	107	8.45 J	1,950	9,330	3,280	6,380	10,200	1,550	694	2,080	2,200	20.7 J	407	8,210	1,170	19.3 J	204	6,100	57.9
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	21,400	<85.6	760	<85.6	13,600	159	25.6 J	5,680	25,300	9,460	17,200	26,300	4,240	1,850	5,340	5,570	64.8 J	1,140	21,900	3,270	42.5 J	790	23,300	172
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	3,510	13.4 J	146	6.44 J	2,420	33.6	3.42 J	781	3,290	1,220	2,470	4,360	570	267	736	619	8.32 J	166.0	5,140	530	8.78 J	111	2,270	21.7
Basin R	1/23/2007 - 6/27/2007 10/05/2007 - 2/15/2008	41,500	157	1,800	28.9 J	30,600	427	57.1	9,050	39,800	14,200	24,900	41,600	5,760	2,660	7,740	8,130	84.4	1,630	35,400	4,790	93.5	1,030	26,700	257
Applicable Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Please refer to notes at end of table.

Table 15
Storm Water Solids Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-58	PCB-61/70	PCB-62	PCB-63	PCB-65	PCB-67	PCB-68	PCB-73	PCB-74	PCB-76/66	PCB-77	PCB-78	PCB-79	PCB-80	PCB-81	PCB-82	PCB-83	PCB-84/92	PCB-85/116	PCB-86	PCB-87/117/125	PCB-88/91	PCB-89	PCB-90/101
		Analyte concentrations in ng/kg (ppt)																							
Basin D	1/22/2007 - 6/27/2007 9/20/2007 2/15/2008	17.3 J	9140	<21.7	323	<21.7	357	27.3	<21.7	3,830	7,080	1,190	<21.7	106	<21.7	32	1,490	<21.7	3,360	1,740	76.8	3,620	1,290	152	7,920
Basin L	1/25/2007 - 6/27/2007 9/20/2007 2/15/2008	62.7 J	29100	<85.6	994	<85.6	1120	87.8	<85.6	12,800	23,800	3,880	<85.6	405	<85.6	202	5,040	<85.6	11,500	5,210	276	11,800	3,800	466	26,900
Basin M	1/23/2007 - 6/27/2007 9/20/2007 2/15/2008	6.92 J	4,780	<16.2	113	<16.2	134	14.1 J	<16.2	1,550	3,180	638	<16.2	131	<16.2	40.5	1,600	<16.2	4,960	2,030	47.1	4,840	1,500	112	12,300
Basin R	1/23/2007 - 6/27/2007 10/05/2007 - 2/15/2008	82.3	42,400	22.8 J	1,280	37.5 J	1,670	123	<44.6	16,000	31,000	6,120	<44.6	618	<44.6	164	8,050	40.2 J	18,700	9,070	349	21,200	6,410	685	43,100
Applicable Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52	NA	NA	NA	17	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	PCB-93	PCB-94	PCB-95/98/102	PCB-96	PCB-97	PCB-99	PCB-100	PCB-103	PCB-104	PCB-105	PCB-106/118	PCB-107/109	PCB-108/112	PCB-110	PCB-111/115	PCB-113	PCB-114	PCB-119	PCB-120	PCB-121	PCB-122	PCB-123	PCB-124	PCB-126
		Analyte concentrations in ng/kg (ppt)																							
Basin D	1/22/2007 - 6/27/2007 9/20/2007 2/15/2008	<21.7	60.9	6,500	111	2,770	3,200	24.5 J	45.3	<21.7	4,160	8,480	600	420	10,800	174	29.5	264	125	32.6	<21.7	145	177	393	106
Basin L	1/25/2007 - 6/27/2007 9/20/2007 2/15/2008	<85.6	156	21,200	283	8,640	10,100	43.2 J	119	<85.6	12,000	28,000	1,880	1,340	35,800	645	183	652	398	173	<85.6	374	483	1,150	331
Basin M	1/23/2007 - 6/27/2007 9/20/2007 2/15/2008	<16.2	44.8	10,100	83.8	3,520	4,210	20.2 J	47.6	<16.2	4,380	11,000	730	525	17,600	197	44.6	224	152	189	<16.2	149	180	511	148
Basin R	1/23/2007 - 6/27/2007 10/05/2007 - 2/15/2008	<44.6	253	34,000	495	14,900	17,200	115	212	<44.6	25,200	52,700	3,600	2,170	65,400	980	<44.6	1,380	617	212	<44.6	829	1,010	2,270	801
Applicable Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	170	NA	NA	NA	NA	NA	NA	120	NA	NA	NA	NA	NA	NA	0.05

Please refer to notes at end of table.

Table 15
Storm Water Solids Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-127	PCB-128/162	PCB-129	PCB-130	PCB-131	PCB-132/161	PCB-133/142	PCB-134/143	PCB-135	PCB-136	PCB-137	PCB-138/163/16	PCB-139/149	PCB-140	PCB-141	PCB-144	PCB-145	PCB-146/165	PCB-147	PCB-148	PCB-150	PCB-151	PCB-152	PCB-153
		Analyte concentrations in ng/kg (ppt)																							
Basin D	1/22/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<21.7	1,690	513	555	<21.7	2,730	247	461	1,020	932	540	9,800	6,720	42.2	1,780	425	<21.7	1,100	167	10.5 J	8.37 J	1,600	8.04 J	7,880
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<85.6	5,990	1,670	1,810	<85.6	10,700	949	1,880	4,920	4,420	1,930	35,100	30,800	174	6,770	1,850	<85.6	4,560	496	<85.6	<85.6	7,980	<85.6	32,900
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<16.2	3,380	935	1,200	<16.2	5,920	486	956	2,380	2,360	925	21,900	15,900	77.6	3,950	950	5.75 J	2,490	315	10.5 J	18.7	4,030	15.5 J	17,700
Basin R	1/23/2007 - 6/27/2007 10/05/2007 - 2/15/2008	<44.6	11,900	3,490	3,880	<44.6	15,700	1,380	2,590	5,380	4,690	3,610	55,700	33,500	277	9,070	1,750	17.6 J	5,860	1,130	38.5 J	54.1	6,930	45.7	39,000
Applicable Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	PCB-154	PCB-155	PCB-156	PCB-157	PCB-158/160	PCB-159	PCB-166	PCB-167	PCB-168	PCB-169	PCB-170	PCB-171	PCB-172	PCB-173	PCB-174	PCB-175	PCB-176	PCB-177	PCB-178	PCB-179	PCB-180	PCB-181	PCB-182/187	PCB-183
		Analyte concentrations in ng/kg (ppt)																							
Basin D	1/22/2007 - 6/27/2007 9/20/2007 - 2/15/2008	68.3	<21.7	1,130	250	1,200	<21.7	39.5	434	7.33 J	<8.21*	2,590	717	452	65.3	2,710	109	301	1,520	455	919	6,250	44.6	3,020	1,460
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	277	<85.6	3,780	804	4,000	<85.6	122	1,560	<85.6	<41 *	10,700	2,620	1,630	282	9,950	315	1,200	5,610	1,710	3,660	23,800	206	11,300	5,610
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	131	<16.2	1,900	459	2,490	<16.2	61.2	902	14.1 J	8.45 J	6,670	1,720	996	156	6,270	246	748	3,610	1,080	2,230	15,000	57.9	7,200	3,650
Basin R	1/23/2007 - 6/27/2007 10/05/2007 - 2/15/2008	438	<44.6	7,410	1,850	7,270	<44.6	288	2,880	44.1 J	37.6 J	11,700	2,720	2,000	292	11,100	523	1,200	6,010	2,090	3,910	27,100	119	14,300	6,280
Applicable Screening Level Value		NA	NA	210	210	NA	NA	NA	210	NA	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Please refer to notes at end of table.

Table 15
Storm Water Solids Analytical Results: Polychlorinated Biphenyl Congengers
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	PCB-184	PCB-185	PCB-186	PCB-188	PCB-189	PCB-190	PCB-191	PCB-192	PCB-193	PCB-194	PCB-195	PCB-196/203	PCB-197	PCB-198	PCB-199	PCB-200	PCB-201	PCB-202	PCB-204	PCB-205	PCB-206	PCB-207	PCB-208	PCB-209
		Analyte concentrations in ng/kg (ppt)																							
Basin D	1/22/2007 - 6/27/2007 9/20/2007 - 2/15/2008	5.79 J	288	<21.7	5.09 J	115	539	111	<21.7	277	1,500	724	1,650	52	68.8	1,600	197	201	291	<21.7	65.5	857	99	202	166
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	<85.6	1,080	<85.6	<85.6	425	2,210	442	<85.6	1,030	5,210	2,290	6,360	181	473	5,350	703	614	836	<85.6	205	1,980	248	455	418
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	6.11 J	673	<16.2	10.1 J	258	1,330	270	<16.2	649	3,190	1,600	3,630	113	196	2,980	424	378	552	<16.2	132	1,400	157	302	305
Basin R	1/23/2007 - 6/27/2007 10/05/2007 - 2/15/2008	25.6 J	1,190	<44.6	51.1	560	2,180	483	<44.6	1,160	9,360	3,170	13,100	323	682	12,600	1,310	1,310	2,150	<44.6	344	7,750	865	1,650	1,260
Applicable Screening Level Value		NA	NA	NA	NA	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Monitoring Location	Date Sampled	Total monoCB	Total diCB	Total triCB	Total tetraCB	Total pentaCB	Total hexaCB	Total heptaCB	Total octaCB	Total nonaCB	Total decaCB	Total PCB
		Analyte concentrations in ng/kg (ppt)										
Basin D	1/22/2007 - 6/27/2007 9/20/2007 - 2/15/2008	438	11,900	46,300	75,900	58,300	41,400	21,900	6,340	1,160	166	264,000
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	1,250	26,100	137,000	224,000	189,000	165,000	83,800	22,200	2,680	418	852,000
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	402	6,750	21,700	33,200	81,500	91,900	52,800	13,200	1,860	305	304,000
Basin R	1/23/2007 - 6/27/2007 10/05/2007 - 2/15/2008	4,610	82,800	279,000	323,000	332,000	226,000	95,000	44,300	10,300	1,260	1,400,000
Applicable Screening Level Value		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	390

Notes:
1. PCB Congeners by EPA Method 1668.
2. ng/kg (ppt) = Nanograms per kilogram (parts per trillion).
3. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision).
4. Bolded values indicate detected concentrations.
5. J = The amount detected is below the Lower Calibration Limit of the instrument.
6. * = Sample-specific detection limit. Detection limits were calculated for non-detected toxic congeners.
7. Shading indicates concentration exceeds applicable screening value.

Table 16
Storm Water Solids Analytical Results: Polynuclear Aromatic Hydrocarbons
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Dibenzofuran	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene
		Concentrations in µg/kg (ppb)											
Basin D	1/22/2007 - 6/27/2007 9/20/2007 - 2/15/2008	150	47	59	110	61	45	1,000	270	3,000	3,200	4,800	1,400
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	320	200	96	1,900	810	510	13,000	2,300	33,000	33,000	43,000	14,000
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	57	39	37	290	110	76	1,900	370	5,000	5,000	5,800	2,100
Applicable Screening Level Value		561	200	200	300	536	NA	1,170	845	2,230	1,520	NA	13,000

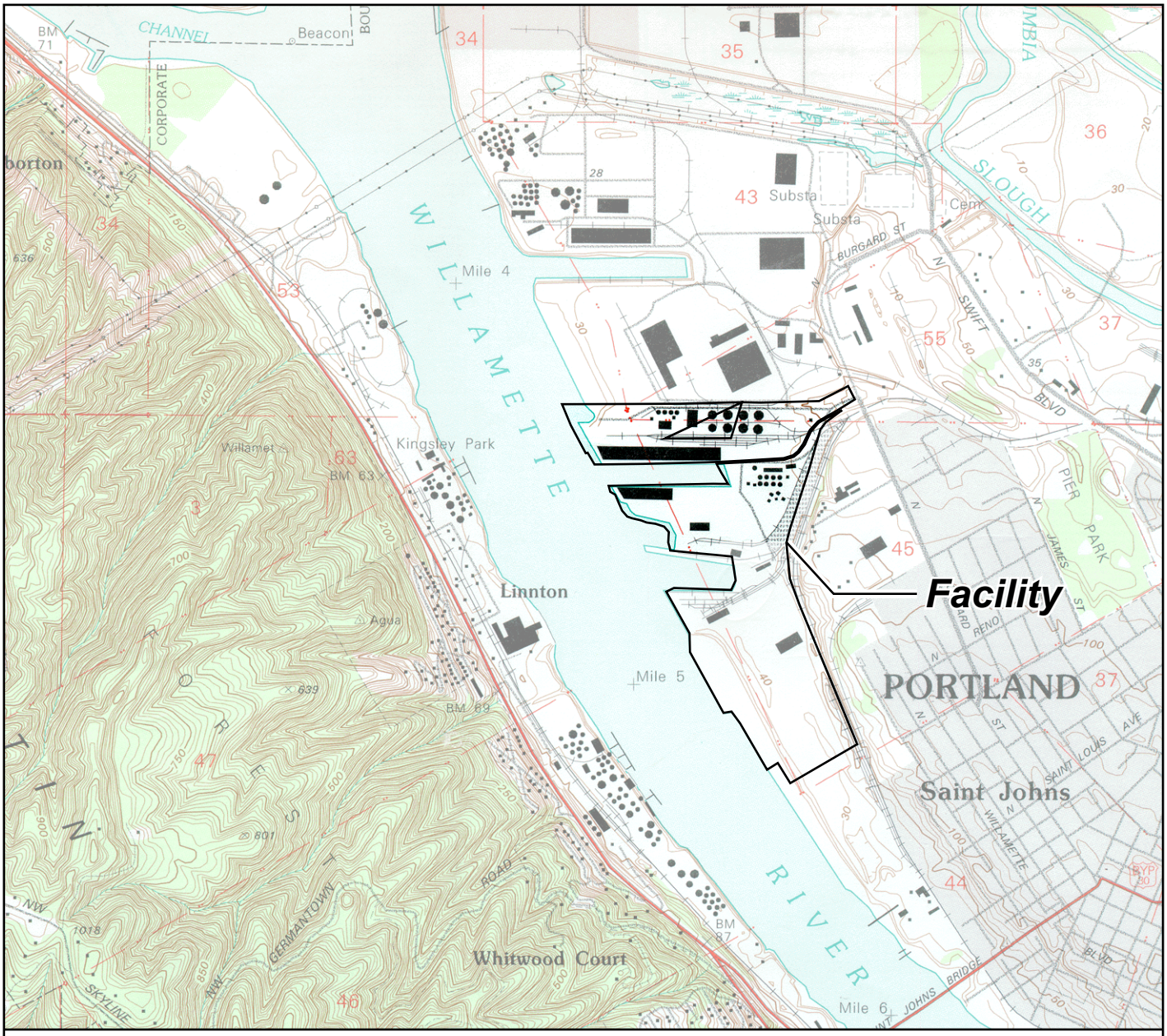
Monitoring Location	Date Sampled	Benz(a)anthracene	Chrysene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	Benzo(g,h,i)perylene
		Concentrations in µg/kg (ppb)					
Basin D	1/22/2007 - 6/27/2007 9/20/2007 - 2/15/2008	2,200	2,700	2,500	1,900	1,300	1,900
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	22,000	28,000	31,000	27,000	5,300	25,000
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	3,100	3,800	4,500	3,600	690	3,400
Applicable Screening Level Value		1,050	1,290	1,450	100	1,300	300

Notes:
1. Polynuclear Aromatic Hydrocarbons by EPA Method 8270 C SIM.
2. µg/kg (ppb) = Micrograms per kilogram (parts per billion).
3. Screening levels used taken from Portland Harbor Joint Source Control Strategy Table 3-1: Screening Level values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water (7/16/07 Revision).
4. Bolded values indicate detected concentrations.
5. Shading indicates concentration exceeds applicable screening value.

Table 17
Storm Water Solids Analytical Results: Total Organic Carbon
Terminal 4
Portland, Oregon

Monitoring Location	Date Sampled	Total Organic Carbon (Percent of dry mass)
Basin D	1/22/2007 - 6/27/2007 9/20/2007 - 2/15/2008	9.51
Basin L	1/25/2007 - 6/27/2007 9/20/2007 - 2/15/2008	11.8
Basin M	1/23/2007 - 6/27/2007 9/20/2007 - 2/15/2008	2.98

Notes:
1. Total Organic Carbon by Puget Sound Estuary Program (PSEP) method.



Base map prepared from the USGS 7.5-minute quadrangle of Linnton, Oregon, dated 1990.

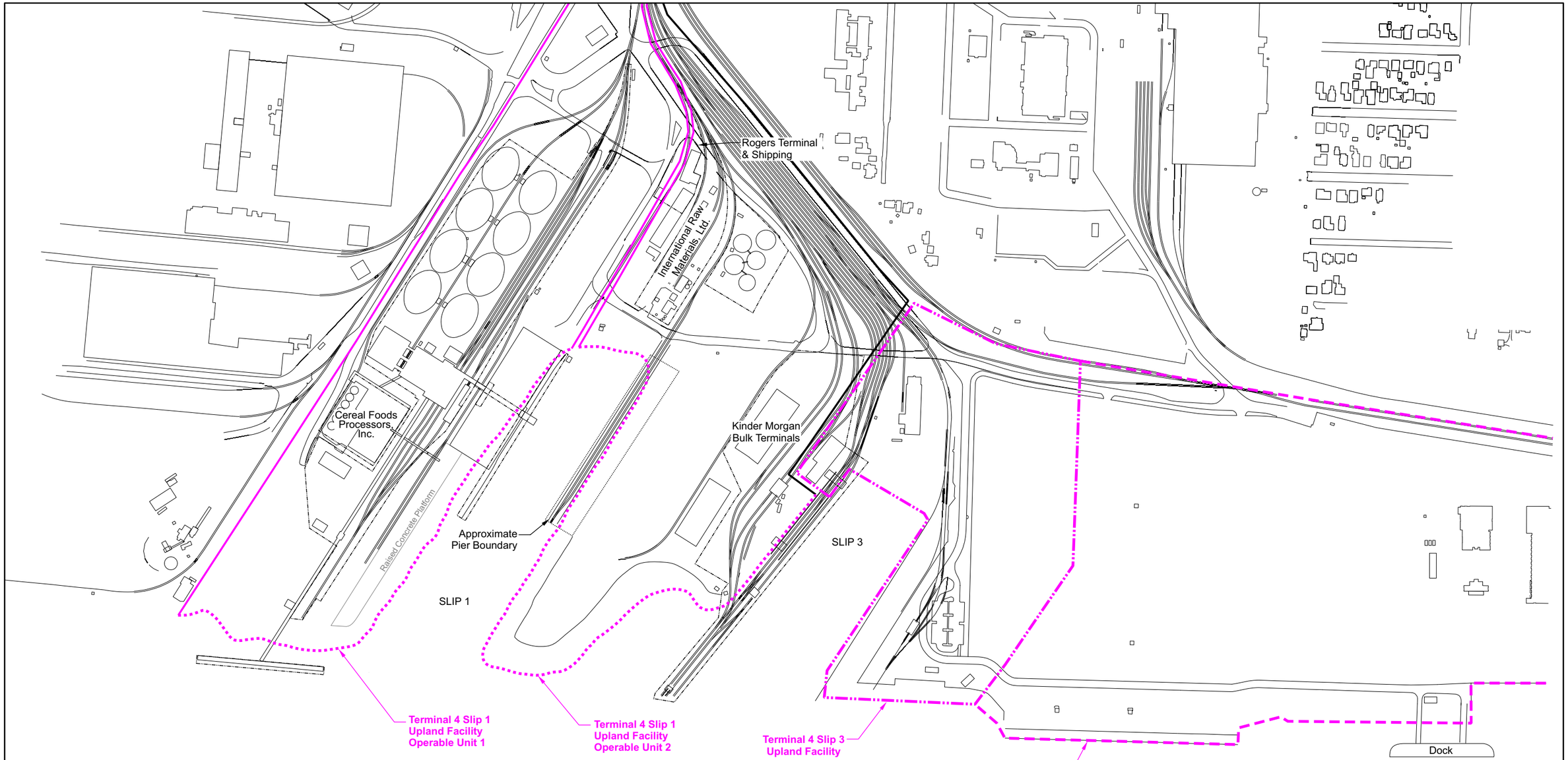
0 2000 4000

Scale in Feet

Facility Location Map

Storm Water Data Summary Report
Terminal 4 Upland Facility
Portland, Oregon

Ash Creek Associates, Inc. Environmental and Geotechnical Consultants	Project Number 1267-05	Figure 1
	March 2009	



Legend:

- Slip 1 Operating Unit Boundary as Defined by Ordinary Low Water Level (1.7 Ft. CRD)
- Slip 1 Operating Unit Boundary - Upland
- Slip 3 Unit Boundary
- Terminal 4 Auto Storage Area

Notes: 1) Base map prepared from the URS Draft T4 Slip 1 RI Work Plan, dated May 2004.
2) Horizontal Datum: State Plane Coordinates, Oregon North, NAD 83. Vertical Datum: NVGD 29.
3) City outfall 52-C not shown.

Facility Plan

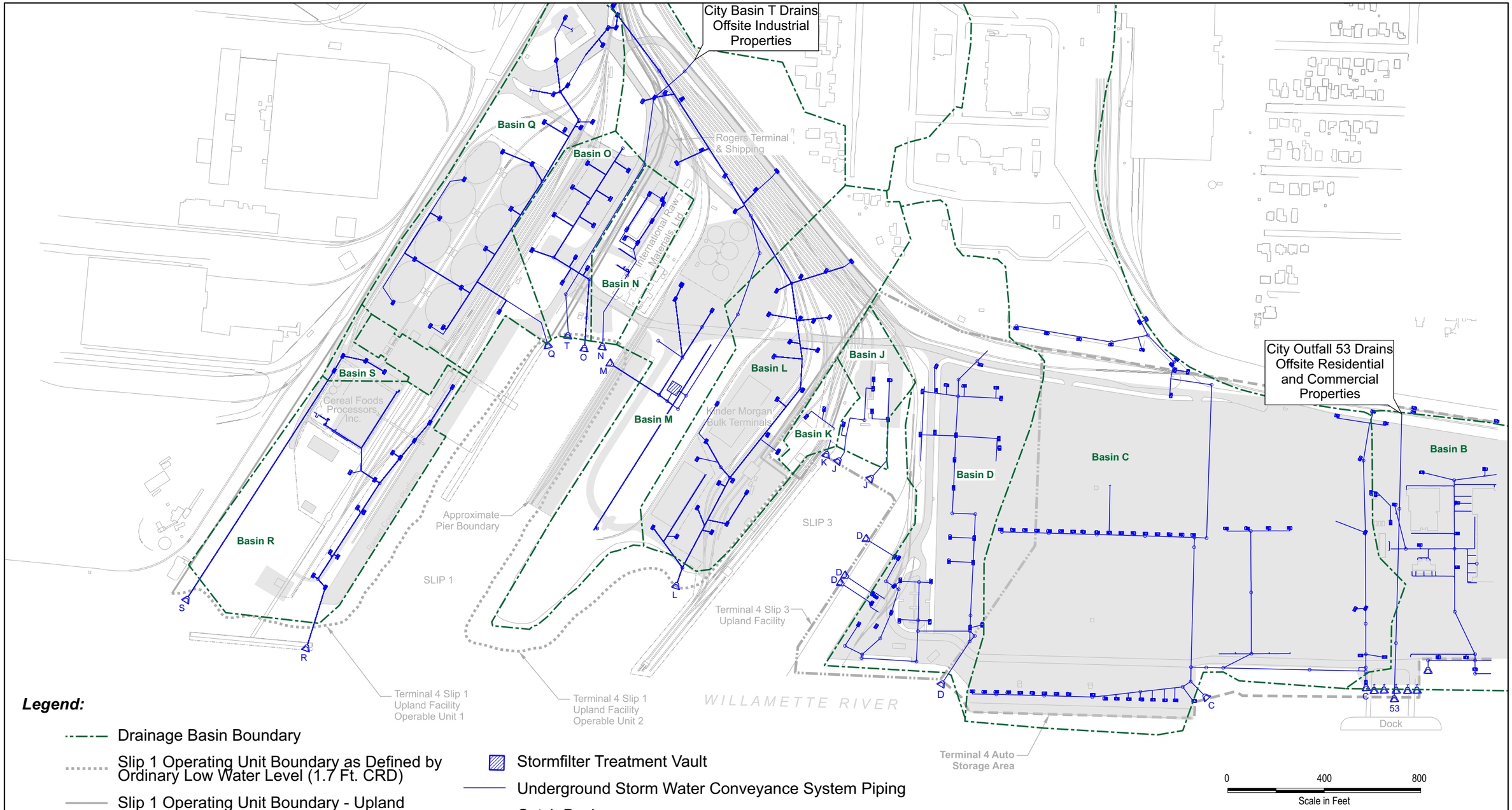
Storm Water Data Summary Reportt
Terminal 4 Upland Facility
Portland, Oregon

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number 1267-05

March 2009

Figure 2



Legend:

- Drainage Basin Boundary
- Slip 1 Operating Unit Boundary as Defined by Ordinary Low Water Level (1.7 Ft. CRD)
- Slip 1 Operating Unit Boundary - Upland
- Slip 3 Unit Boundary
- Terminal 4 Auto Storage Area
- Asphalt or Concrete Pavement
- Stormfilter Treatment Vault
- Underground Storm Water Conveyance System Piping
- Catch Basin
- Manhole
- D Outfall with Basin Designation

Notes: 1) Base map prepared from the URS Draft T4 Slip 1 RI Work Plan, dated May 2004.
2) Horizontal Datum: State Plane Coordinates, Oregon North, NAD 83. Vertical Datum: NVGD 29.
3) City outfall 52-C not shown.

Storm Drain System and Drainage Basins

Storm Water Data Summary Report
Terminal 4 Upland Facility
Portland, Oregon

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number 1267-05
March 2009

Figure 3

Legend:

- Basin R Sampler — Basin Sediment Trap Location
- Drainage Basin Boundary
- Slip 1 Operating Unit Boundary as Defined by Ordinary Low Water Level (1.7 Ft. CRD)
- Slip 1 Operating Unit Boundary - Upland
- Slip 3 Unit Boundary
- Terminal 4 Auto Storage Area
- Asphalt or Concrete Pavement
- Stormfilter Treatment Vault
- Underground Storm Water Conveyance System Piping
- Catch Basin
- Manhole
- D — Outfall with Basin Designation

Notes: 1) Base map prepared from the URS Draft T4 Slip 1 RI Work Plan, dated May 2004.
2) Horizontal Datum: State Plane Coordinates, Oregon North, NAD 83. Vertical Datum: NVGD 29.
3) City outfall 52-C not shown.

Storm Water Sampler Locations

Storm Water Data Summary Report
Terminal 4 Upland Facility
Portland, Oregon

Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number 1267-05
March 2009

Figure 4

Legend:

- Basin R Sediment Trap — Basin Sediment Trap Location
- Drainage Basin Boundary
- Slip 1 Operating Unit Boundary as Defined by Ordinary Low Water Level (1.7 Ft. CRD)
- Slip 1 Operating Unit Boundary - Upland
- Slip 3 Unit Boundary
- Terminal 4 Auto Storage Area
- Asphalt or Concrete Pavement
- Stormfilter Treatment Vault
- Underground Storm Water Conveyance System Piping
- Catch Basin
- Manhole
- D — Outfall with Basin Designation

Notes: 1) Base map prepared from the URS Draft T4 Slip 1 RI Work Plan, dated May 2004.
2) Horizontal Datum: State Plane Coordinates, Oregon North, NAD 83. Vertical Datum: NVGD 29.
3) City outfall 52-C not shown.

Sediment Trap Locations

Storm Water Data Summary Report
Terminal 4 Upland Facility
Portland, Oregon

Ash Creek Associates, Inc.
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Project Number 1267-05
March 2009

Figure 5